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OCTOBER 1979 Number 422 -- Part I

P-A STACKS

APR 9 1980

Solar-Geophysical Data prompt reports

P-A STACKS

Data for September 1979 -- August 1979

Explanation of Data Reports Issued as Number 414 (Supplement) February 1979

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Solar - Geophysical Data

NO. 422 OCTOBER 1979

Part I (Prompt Reports)

DATA FOR
SEPTEMBER 1979
AUGUST 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 422

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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A = Part I, B = Part II.

--- = no data available.
blank = data not yet received.

SGD 422 Part I (Prompt)

SEPTEMBER 1979 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1979

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS).

14 SEPTEMBER 1979 BOULDER 14/1340Z TENFLARE 3000 FLUX UNITS 14/0653Z DURATION 100 MINUTES.
15 SEPTEMBER 1979 BOULDER 15/1727Z PROTON EVENT BEGAN AT 15/1420Z 10 PARTICLES/CM^2/S/SR AT GREATER THAN 10 MEV.
16 SEPTEMBER 1979 BOULDER 16/1358Z SOFLARE X4/2B N03E80 16/0937Z DURATION 100 MINUTES.
BOULDER 16/1358Z SOFLARE X2/SURGE 16/0101Z N08E90.
19 SEPTEMBER 1979 BOULDER 19/2130Z SOFLARE M2/2B N05E32 19/2057Z DURATION 30 MINUTES.
BOULDER 19/2310Z SOFLARE X5/3B N06E33 19/2306Z 14 MINUTE DURATION.
20 SEPTEMBER 1979 BOULDER 20/0024Z TENFLARE 1800 FLUX UNITS 19/2307Z DURATION 33 MINUTES.
22 SEPTEMBER 1979 BOULDER 22/0050Z SOFLARE M9/1B N06E06 21/2356Z DURATION 24 MINUTES.
TENFLARE 210 FLUX UNITS 21/2351Z DURATION 7 MINUTES.
BOULDER 22/0310Z SOFLARE X1/1B N06E04 22/0238Z DURATION 8 MINUTES.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
244	01	31	213	177	013	N05W78	4	0	0		31	N05W78	A	SOLALERT 01/XX MAGQUIET
						S32W74	0	0	0			S32W74	Q	
						N26W74	0	0	0			N26W74	Q	
						N18W67	1	0	0			N18W67	Q	
						N17W41	1	0	0			N17W41	Q	
						S23W34	0	0	0			S23W34	Q	
						S28W13	0	0	0			S28W13	Q	
						N24E07	0	0	0			N24E07	Q	
						N12E12	0	0	0			N12E12	Q	
						N19E16	0	0	0			N19E16	E	
						N21E52	6	0	0			N21E52	E	
						N13E53	3	0	0			N13E53	E	
245	02	01	216	173	004	N04W85	1	0	0		01	N04W85	Q	SOLALERT 02/03 MAGQUIET
						N20W79	0	0	0			N20W79	Q	
						N18E03	0	0	0			N18E03	Q	
						N23W07	0	0	0			N23W07	Q	
						N17W56	0	0	0			N17W56	Q	
						N21E38	2	0	0			N21E38	E	
						N12E38	4	0	0			N12E38	E	
						N13W01	0	0	0			N13W01	Q	
						S19E66	0	0	0			S19E66	A	
						N14E53	0	0	0			N14E53	Q	
						N16W15	0	0	0			N16W15	Q	
						S15E01	0	0	0			S15E01	Q	
246	03	02	169	177	008	S22W62	0	0	0	PRESTO TOYOKAWA	02	S22W62	Q	SOLALERT 03/xx MAGQUIET
						S26W40	0	0	0	02/0039Z TENFLARE		S26W40	Q	
						N18W11	0	0	0	110 UNITS 02/0022Z		N18W11	Q	
						N17W71	0	0	0	IN PROGRESS		N17W71	Q	
						N20E24	1	0	0			N20E24	E	
						N12E21	2	0	0			N12E21	E	
						N12W14	0	0	0			N12W14	Q	
						S19E53	2	0	0			S19E53	E	
						N14E39	1	0	0			N14E39	Q	
						N22W31	0	0	0			N22W31	Q	
247	04	03	184	178	007	S21W75	0	0	0		03	S21W75	Q	SOLNIL MAGQUIET
						N18W22	0	0	0			N18W22	Q	
						N17W82	0	0	0			N17W82	Q	
						N21E10	0	0	0			N21E10	E	
						N12E07	1	0	0			N12E07	Q	
						N12W25	0	0	0			N12W25	Q	
						S19E40	1	1	0			S19E40	Q	
						N14E27	2	1	0			N14E27	E	
						S20W17	0	0	0			S20W17	Q	
248	05	04	201	177	009	N18W37	1	0	0		04	N18W37	Q	SOLQUIET MAGQUIET
						N21W02	0	0	0			N21W02	Q	
						N12W07	0	0	0			N12W07	Q	
						N13W42	3	0	0			N13W42	Q	
						S18E26	0	0	0			S18E26	Q	
						N15E13	7	0	0			N15E13	E	
						S20W33	3	0	0			S20W33	E	
						N15E74	0	0	0			N15E74	Q	
						S11E56	0	0	0			S11E56	Q	
						N12W21	0	0	0			N12W21	Q	
249	06	05	208	174	015	N18W55	1	0	0		05	N18W55	Q	SOLQUIET MAGQUIET
						N21W20	0	0	0			N21W20	Q	
						N12W20	1	0	0			N12W20	Q	
						N13W54	1	0	0			N13W54	Q	
						S19E14	0	0	0			S19E14	Q	
						N14W00	0	0	0			N14W00	Q	
						S21W45	1	0	0			S21W45	Q	
						N14E60	1	0	0			N14E60	Q	
						N13W12	0	0	0			N13W12	Q	
250	07	06	223	180	015	N18W67	5	0	0		06	N18W67	Q	SOLQUIET MAGALERT 07/09
						N21W29	0	0	0			N21W29	Q	
						N12W31	0	0	0			N12W31	Q	
						N13W71	0	0	0			N13W71	Q	
						S18E00	0	0	0			S18E00	Q	
						N14W13	0	0	0			N14W13	Q	
						S21W60	0	0	0			S21W60	Q	
						N14E47	0	0	0			N14E47	Q	
						N14W24	0	0	0			N14W24	Q	
						S21W12	0	0	0			S21W12	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
251	08	07	231	184	008	N17W81	1	0	0		07	N17W81	E	SOLALERT 08/10
						N21W41	1	0	0			N21W41	E	MAGALERT 08/09
						N13W85	0	0	0			N13W85	Q	
						S18W12	5	0	0			S18W12	E	
						N14W27	7	0	0			N14W27	E	
						S21W75	0	0	0			S21W75	Q	
						N14E33	2	0	0			N14E33	E	
						S30E02	0	0	0			S30E02	Q	
						N27E57	0	0	0			N27E57	Q	
						N12E72	0	0	0			N12E72	Q	
						N16E42	5	0	0			N16E42	E	
252	09	08	181	181	008	N21W55	3	0	0		08	N21W55	E	SOLALERT 09/11 MAGQUIET
						S18W30	1	0	0			S18W30	Q	
						N14W40	1	0	0			N14W40	E	
						N14E19	0	0	0			N14E19	E	
						S31W08	0	0	0			S31W08	Q	
						N26E44	0	0	0			N26E44	Q	
						N14E63	0	0	0			N14E63	Q	
						N16E28	2	0	0			N16E28	Q	
253	10	09	150	185	004	N21W68	0	0	0		09	N21W68	Q	SOLALERT 10/12 MAGQUIET
						S19W44	0	0	0			S19W44	Q	
						N13W53	1	0	0			N13W53	Q	
						N14E05	0	0	0			N14E05	Q	
						N26E27	0	0	0			N26E27	Q	
						N12E51	2	0	0			N12E51	E	
						N15E15	5	1	0			N15E15	A	
						N28E75	0	0	0			N28E75	Q	
254	11	10	253	182	010	N20W84	0	0	0		10	N20W84	Q	SOLALERT 11/12 MAGALERT 12
						S19W57	1	1	0			S19W57	Q	
						N13W67	5	0	0			N13W67	E	
						N13W09	1	0	0			N13W09	Q	
						S27W30	0	0	0			S27W30	Q	
						N25E13	0	0	0			N25E13	Q	
						N14E37	4	0	0			N14E37	E	
						N11E01	1	0	0			N11E01	Q	
						N27E64	0	0	0			N27E64	Q	
						N10E39	0	0	0			N10E39	Q	
						N17E40	0	0	0			N17E40	Q	
						S27W29	1	0	0			S27W29	Q	
						S26E75	0	0	0			S26E75	Q	
255	12	11	190	184	019	S19W74	1	0	0		11	S29W74	Q	SOLALERT 12 MAGNIL
						N13W81	1	0	0			N13W81	Q	
						N12W21	3	0	0			N12W21	Q	
						S25W48	0	0	0			S25W48	Q	
						N13E23	3	0	0			N13E23	Q	
						N16W14	5	2	0			N16W14	E	
						N27E52	0	0	0			N27E52	Q	
						N09E26	7	0	0			N09E26	E	
						N18E29	0	0	0			N18E29	Q	
						S27W42	0	0	0			S27W42	Q	
						S25E61	0	0	0			S25E61	Q	
256	13	12	223	179	005	S19W87	2	0	0		12	S19W87	Q	SOLALERT MINOR 13 MAGQUIET
						N13W36	4	0	0			N13W36	Q	
						S25W60	6	0	0			S25W60	Q	
						N13E09	0	0	0			N13E09	E	
						N16W28	4	0	0			N16W28	Q	
						N27E39	0	0	0			N27E39	Q	
						N08E12	3	0	0			N08E12	E	
						N18E14	0	0	0			N18E14	E	
						S28W57	0	0	0			S28W57	Q	
						S25E50	0	0	0			S25E50	Q	
						N21E63	0	0	0			N21E63	Q	
						N13W13	0	0	0			N13W13	Q	
257	14	13	247	184	006	S25W73	1	0	0		13	S25W73	Q	SOLALERT 14/xx MAGQUIET
						N11W49	0	0	0			N11W49	Q	
						N16W40	3	0	0			N16W40	E	
						N13W27	1	0	0			N13W27	Q	
						S25W07	0	0	0			S25W07	Q	
						N13W03	0	0	0			N13W03	Q	
						N08W02	11	2	0			N08W02	A	
						N17E02	0	0	0			N17E02	Q	
						S13E18	0	0	0			S13E18	Q	
						N27E26	2	0	0			N27E26	Q	
						S26E35	4	0	0			S26E35	E	
						N21E49	0	0	0			N21E49	Q	
						N33E65	1	0	0			N33E65	Q	
						S12E73	1	0	0			S12E73	Q	

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ALERT PERIODS

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Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
258	15	14	240	199	007	N11W63	0	0	0	PRESTO SOFLARE	14	N11W63	Q	MAJOR FLARE ALERT 15/xx
						N16W56	1	1	0	MAJOR FLARE X2 BE-		N16W56	E	MAGALERT MINOR 15/17
						N14W42	0	0	0	GAN 0652Z MAX 0802Z		N14W42	Q	
						S05W42	2	0	0	157 MINUTE DURATION,		S05W42	E	
						N12W17	1	0	0	TENFLARE 3300 FLUX		N12W17	Q	
						N08W16	10	1	0	UNITS AT 2700 MHZ		N08W16	P	
						N17W11	0	0	0	TYPE II and IV		N17W11	Q	
						S12E02	0	0	0	DEKAMETRIC RADIO.		S12E02	Q	
						N26E13	1	0	0	LOOPS AFTER SPRAY		N26E13	Q	
						S26E21	0	0	0	OF MANY HOURS DU-		S26E21	Q	
						S11E25	0	0	0	RATION.		S11E25	Q	
						N20E36	0	0	0			N20E36	Q	
						N32E52	0	0	0			N32E52	Q	
						S12E60	0	0	0			S12E60	Q	
												N05E90	P	
259	16	15	245	192	011	N12W30	0	0	0	PRESTO SOFLARE	15	N12W30	Q	SOLALERT 16/18
						N16W69	1	0	0	X2/NO OPTICAL		N16W69	Q	MAGALERT MINOR 16/18
						N27E00	0	0	0	16/0114Z 08 MINUTE		N27E00	Q	
						N08W29	1	0	0	DURATION, 200 FLUX		N08W29	A	
						N16W24	0	0	0	UNITS AT 2695 MHZ.		N16W24	Q	
						S25E08	0	0	0	PRESTO TOYOKAWA		S25E08	Q	
						N23E23	1	0	0	TENFLARE 270 UNITS		N23E23	Q	
						N14W58	0	0	0	16/0100Z DURA-		N14W58	Q	
						S12E47	1	0	0	TION 20 MINUTES		S12E47	Q	
						N34E39	0	0	0			N34E39	Q	
						S06W55	0	0	0			S06W55	Q	
						S12E15	0	0	0			S12E15	Q	
						N04E85	0	0	0			N04E85	A	
						S11E25	0	0	0			S11E25	Q	
						S33W50	0	0	0			S33W50	Q	
						N17E56	0	0	0			N17E56	Q	
260	17	16	233	196	008	N11W44	0	0	0	PRESTO SOFLARE 2B	16	N11W44	Q	PROTON FLARE ALERT 17/19 N06E73
						N13W81	0	0	0	16/0937Z N03E80		N13W81	Q	MAGALERT MINOR 17/xx
						N25W12	0	0	0	DURATION 100 MIN-		N25W12	Q	
						N08W44	2	1	0	UTES SUSPECTED PRO-		N08W44	E	
						N17W41	0	0	0	TON FLARE X4 EVENT		N17W41	Q	
						S26W03	0	0	0	AT 16/0443Z DURA-		S26W03	Q	
						N19E09	0	0	0	TION 14 MINUTES.		N19E09	Q	
						N11W73	0	0	0	32 PROTON/CM^2/S/SR		N11W73	Q	
						S10W23	0	0	0	GREATER THAN 10 MEV.		S10W23	Q	
						S12E34	0	0	0	X2 EVENT AT		S12E34	Q	
						N32E25	0	0	0	16/0101Z.		N32E25	Q	
						S08W72	0	0	0			S08W72	Q	
						N06E73	6	1	2			N06E73	A	
						S12E10	0	0	0			S12E10	Q	
						S23E70	0	0	0			S23E70	Q	
261	18	17	204	203	010	N08W58	0	0	0		17	N08W58	E	MAGALERT MINOR 18
						S27W16	0	0	0			S27W16	Q	PROTON FLARE ALERT 18/20 N05E61
						N20W04	0	0	0			N20W04	Q	
						S10W37	0	0	0			S10W37	Q	
						S12E21	0	0	0			S12E21	Q	
						S12W01	0	0	0			S12W01	Q	
						N05E61	6	0	0			N05E61	A	
						S11E02	0	0	0			S11E02	Q	
						N15E30	0	0	0			N15E30	Q	
						S22E53	0	0	0			S22E53	Q	
262	19	18	278	214	42	N25W40	0	0	0		18	N25W40	Q	SOLALERT 19/22
						N08W72	2	1	0			N08W72	E	MAGALERT MINOR 19
						S27W29	0	0	0			S27W29	Q	
						N21W17	0	0	0			N22W17	Q	
						S11W49	0	0	0			S11W49	Q	
						S11E08	0	0	0			S11E08	Q	
						N33E01	0	0	0			N33E01	Q	
						S13W26	0	0	0			S13W26	Q	
						N06E46	6	1	0			N06E46	A	
						S12W15	0	0	0			S12W15	Q	
						N14E17	0	0	0			N14E17	Q	
						S22E41	0	0	0			S22E41	Q	
						S12E63	0	0	0			S12E63	Q	
						S19E71	1	0	0			S19E71	Q	
						N27E74	0	0	0			N27E74	Q	
263	20	19	282	217	005	N08W84	4	1	0	PRESTO SOFLARE	19	N08W84	E	SOLALERT 20/23 MAGALERT 21
						S24W42	2	0	0	BOULDER		S24W42	Q	
						N18W29	0	0	0	X5/3B N06E33 AT		N18W29	Q	
						S12W62	0	0	0	19/2306Z AND TEN-		S12W62	Q	
						S11W06	0	0	0	FLARE 1800 FLUX		S11W06	Q	
						N06E31	13	1	1	UNITS AT 19/2307Z		N06E31	A	
						S12W31	0	0	0	WITH 33 MINUTE DU-		S12W31	Q	
						S21E28	1	0	0	RATION.		S21E28	Q	
						S13E52	0	0	0			S13E52	Q	
						S19E60	2	0	0			S19E60	E	
						N28E59	2	0	0			N28E59	E	
						S21E15	0	0	0			S21E15	Q	
						S09E30	0	0	0			S09E30	Q	
						N12E59	0	0	0			N12E59	Q	
						N21E01	0	0	0			N21E01	Q	

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						Location	No. of Flares				Date	Location	Desc*	
						Lat-Long	Total	M	X			Lat-Long		
264	21	20	207	216	014	S27W56	0	0	0		20	S27W56	Q	SOLALERT 21/23 MAGALERT 21/22
						S10W75	0	0	0			S10W75	Q	
						N05E18	8	2	0			N05E18	P	
						S21E14	0	0	0			S21E14	Q	
						S13E37	0	0	0			S13E37	Q	
						S20E45	1	0	0			S20E45	Q	
						N27E47	2	0	0			N27E47	E	
						S22W01	0	0	0			S22W01	Q	
						S09E15	0	0	0			S09E15	Q	
						N11E44	0	0	0			N11E44	Q	
						N18E82	0	0	0			N18E82	Q	
265	22	21	194	217	018	S27W70	0	0	0	BOULDER SOFLARE M9	21	S27W70	Q	SOLALERT 22/24 MAGALERT 22
						N05E05	6	1	0	N06E06 21/2356Z		N05E05	P	
						S21E02	0	0	0	DURATION 24 MINUTES		S21E02	Q	
						S13E24	0	0	0	TENFLARE 210 FLUX		S13E24	Q	
						S20E33	1	0	0	UNITS 21/2351Z		S20E33	Q	
						N27E32	1	0	0	DURATION 7 MINUTES		N27E32	E	
						S09W05	1	0	0	TOYOKAWA TENFLARE		S09W05	Q	
						N17E71	2	0	0	490 F.U. 21/2351Z		N17E71	Q	
										DURATION 20 MINUTES.				
266	23	22	291	215	012	S27W86	0	0	0	BOULDER SOFLARE	22	S27W86	Q	MAJOR FLARE ALERT 23/24
						N05W08	6	0	1	X1/1B N06E04		N05W08	P	MAGALERT 23
						S21W11	0	0	0	22/0238Z DURATION		S21W11	Q	
						S13E11	0	0	0	8 MINUTES		S13E11	Q	
						S19E18	0	0	0	TOYOKAWA TENFLARE		S19E18	Q	
						N28E19	0	0	0	22/0233Z 130 F.U.		N28E19	Q	
						S10W16	0	0	0	DURATION 10 MINUTES.		S10W16	Q	
						N12E16	0	0	0			N12E16	Q	
						N18E55	0	0	0			N18E55	Q	
						S17W55	0	0	0			S17W55	Q	
						N07W16	0	0	0			N07W16	Q	
						S13E32	2	0	0			S13E32	E	
						N18E35	0	0	0			N18E35	Q	
						N16E70	0	0	0			N16E70	E	
267	24	23	395	225	005	N12W51	1	0	0	TOYOKAWA TENFLARE	23	N12W51	E	MAJOR FLARE ALERT 24/xx
						S10W30	0	0	0	23/0300Z 130 F.U.		S10W30	Q	MAGNIL
						N07W28	0	0	0	23/0202Z DURATION		N07W28	Q	
						S21W24	0	0	0	04 MINUTES.		S21W24	Q	
						N05W21	8	2	0			N05W21	P	
						N22W19	1	0	0			N22W19	E	
						S11W02	1	0	0			S11W02	Q	
						N12E02	0	0	0			N12E02	Q	
						S19E06	0	0	0			S19E06	Q	
						N28E07	0	0	0			N28E07	Q	
						S13E20	3	0	0			S13E20	E	
						N18E23	0	0	0			N18E23	Q	
						S12E34	0	0	0			S12E34	Q	
						N10E35	0	0	0			N10E35	Q	
						N19E44	0	0	0			N19E44	Q	
						S24E60	0	0	0			S24E60	Q	
						N15E60	0	0	0			N15E60	Q	
						N22E71	0	0	0			N22E71	Q	
						N18E71	1	0	0			N18E71	E	
268	25	24	408	208	008	N05W34	8	1	0		24	N05W34	E	SOLALERT 25/27
						N12W64	3	0	0			N12W64	Q	MAGALERT MINOR 26
						S22W36	0	0	0			S22W36	Q	(FILAMENT DISAPPEARANCE)
						S19W08	0	0	0			S19W08	Q	
						N27W06	0	0	0			N27W06	Q	
						S10W42	0	0	0			S10W42	Q	
						N12W12	1	0	0			N12W12	Q	
						N17E30	0	0	0			N17E30	Q	
						N08W40	0	0	0			N08W40	E	
						S13E05	0	0	0			S13E05	Q	
						N17E07	0	0	0			N17E07	Q	
						N15E46	0	0	0			N15E46	Q	
						N22W33	1	0	0			N22W33	Q	
						N09E21	0	0	0			N09E21	Q	
						S13E20	0	0	0			S13E20	Q	
						S26E46	1	0	0			S26E46	Q	
						N21E57	0	0	0			N21E57	Q	
						N17E60	1	0	0			N17E60	Q	
						S31E03	0	0	0			S31E03	Q	
						S21E65	1	0	0			S21E65	Q	
						N21E57	0	0	0			N21E57	Q	

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269	26	25	393	234	013	N06W46	3	0	0		25	N06W46	E	SOLALERT 26/27 MAGALERT 26
						N13W77	1	0	0			N13W77	Q	
						S20W50	0	0	0			S20W50	Q	
						S19W22	0	0	0			S19W22	Q	
						N27W17	0	0	0			N27W17	Q	
						N12W25	0	0	0			N12W25	Q	
						N17E18	4	0	0			N17E18	E	
						S13W11	0	0	0			S13W11	Q	
						N17W03	0	0	0			N17W03	Q	
						N15E33	0	0	0			N15E33	Q	
						N22W46	2	0	0			N22W46	Q	
						N10E08	0	0	0			N10E08	Q	
						S12E06	0	0	0			S12E06	Q	
						S27E34	0	0	0			S27E34	Q	
						N20E49	3	0	0			N20E49	E	
						N16E48	3	1	0			N16E48	E	
						S21E53	0	0	0			S21E53	Q	
						N22E22	0	0	0			N22E22	Q	
270	27	26	355	231	015	N06W59	3	0	0		26	N06W59	E	SOLALERT 27/28 MAGNIL
						S19W31	0	0	0			S19W31	Q	
						N16W28	1	0	0			N16W28	Q	
						N11W39	0	0	0			N11W39	Q	
						N17E05	0	0	0			N17E05	E	
						S12W24	0	0	0			S12W24	Q	
						N16W16	0	0	0			N16W16	Q	
						N15E20	0	0	0			N15E20	Q	
						N22W59	1	0	0			N22W59	Q	
						N11W04	0	0	0			N11W04	Q	
						S12W08	0	0	0			S12W08	Q	
						S26E20	0	0	0			S26E20	Q	
						N21W33	0	0	0			N21W33	Q	
						N17E35	1	0	0			N17E35	E	
						S22E40	4	0	0			S22E40	Q	
						N22E08	0	0	0			N22E08	Q	
						N21E67	1	0	0			N21E67	Q	
271	28	27	274	229	015	N07W72	1	0	0		27	N07W72	E	SOLALERT 28/29 MAGQUIET
						S19W48	0	0	0			S19W48	Q	
						N28W43	0	0	0			N28W43	Q	
						N17W08	2	0	0			N17W08	E	
						S13W40	0	0	0			S13W40	Q	
						N16W31	0	0	0			N16W31	Q	
						N14E06	0	0	0			N14E06	Q	
						N22W73	0	0	0			N22W73	Q	
						S13W21	2	0	0			S13W21	Q	
						N26E07	1	0	0			N26E07	Q	
						N16E21	3	0	0			N16E21	E	
						S21E26	1	0	0			S21E26	Q	
						N22W05	6	0	0			N22W05	Q	
						N23E53	0	0	0			N23E53	Q	
						N24E12	0	0	0			N24E12	Q	
272	29	28	284	233	013	N06W85	2	0	0		28	N06W85	Q	SOLNIL MAGQUIET
						S20W62	0	0	0			S20W62	Q	
						N27W56	1	0	0			N27W56	Q	
						N17W21	3	0	0			N17W21	E	
						S14W54	0	0	0			S14W54	Q	
						N15W44	0	0	0			N15W44	Q	
						N14W06	1	0	0			N14W06	E	
						N21W87	0	0	0			N21W87	Q	
						S13W35	0	0	0			S13W35	Q	
						S26W06	1	0	0			S26W06	Q	
						N17E08	4	0	0			N17E08	E	
						S21E13	2	0	0			S21E13	Q	
						N22W19	0	0	0			N22W19	E	
						S27E68	0	0	0			S27E68	Q	
273	30	29	253	224	011	S20W76	0	0	0		29	S20W76	Q	SOLQUIET MAGQUIET
						N18W35	3	0	0			N18W35	E	
						S15W65	0	0	0			S15W65	Q	
						N14W58	0	0	0			N14W58	Q	
						N14W21	0	0	0			N14W21	Q	
						S13W49	0	0	0			S13W49	Q	
						S14W19	0	0	0			S14W19	Q	
						N17W07	0	0	0			N17W07	E	
						S21W01	0	0	0			S21W01	Q	
						N22W33	0	0	0			N22W33	E	
						S28E55	0	0	0			S28E55	Q	
						N11E74	0	0	0			N11E74	Q	

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SEPTEMBER 1979

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No of Flares Total	M	X		Date	Location Lat-Long	Desc*	
274	01	30	303	231	017	S19W88	1	0	0		30	S19W88	Q	SOLALERT 01/02 MAGQUIET
						N20W46	8	0	0			N20W46	A	
						S13W80	0	0	0			S13W80	Q	
						N14W72	0	0	0			N14W72	Q	
						N14W33	1	0	0			N14W33	Q	
						S13W62	1	0	0			S13W62	Q	
						S25W31	3	0	0			S25W31	Q	
						N17W20	2	0	0			N17W20	E	
						S22W14	1	0	0			S22W14	Q	
						N23E16	0	0	0			N23E16	Q	
						S26E42	0	0	0			S26E42	Q	
						N12E64	2	0	0			N12E64	Q	
						S34E11	0	0	0			S34E11	Q	
						N15E45	2	0	0			N15E45	Q	

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1978 FINAL			1979 PROVISIONAL								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	109	110	158	116	116	131	108	121	158	115	165
2	112	122	110	158	127	138	134	106	152	168	96	141
3	135	125	117	191	144	141	135	103	161	225	121	148
4	108	129	115	157	123	142	138	112	179	219	110	157
5	73	121	104	146	134	135	109	113	207	232	93	139
6	74	108	122	173	146	144	91	122	226	249	104	139
7	95	112	138	163	144	146	77	148	222	223	110	170
8	103	118	148	172	142	143	69	165	228	219	132	142
9	121	108	152	165	139	146	61	162	231	191	115	190
10	149	120	144	163	137	140	87	145	205	163	92	177
11	158	118	170	157	137	156	109	143	186	155	94	167
12	158	99	188	159	138	170	107	158	199	145	87	156
13	156	90	165	159	152	169	113	163	172	142	91	175
14	170	78	150	162	163	159	116	203	149	127	119	166
15	166	59	140	178	161	155	117	207	127	121	135	177
16	163	77	143	164	159	130	119	187	103	114	122	170
17	143	92	146	164	160	142	107	184	122	109	138	155
18	135	93	132	146	162	142	98	148	126	109	157	177
19	154	85	95	138	166	138	79	109	110	135	176	195
20	151	76	84	177	169	120	68	107	111	156	187	191
21	144	68	68	181	171	134	68	114	124	151	218	184
22	125	77	63	178	155	140	79	121	108	152	216	178
23	116	55	59	188	127	139	79	117	96	154	206	219
24	104	61	65	209	99	118	80	119	90	143	203	236
25	96	85	81	209	88	114	85	124	120	144	201	252
26	102	101	93	173	108	114	118	123	132	142	182	251
27	115	118	110	162	97	117	125	114	112	146	189	256
28	117	118	122	157	95	114	132	110	128	132	174	239
29	137	111	135	153		110	132	113	124	148	158	235
30	128	103	159	149		127	120	96	154	150	150	233
31	111		177	130		147		120		144	168	
MEAN	125.1	97.9	122.7	165.8	138.0	137.0	102.8	134.6	150.5	159.6	143.5	188.7

1978 yearly mean = 92.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1978			1979								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139.0	152.8	166.6	194.1*	185.8	168.5	202.6*	180.4	159.5	186.3	149.1	175.8
2	137.8	159.0	167.6	200.1	185.6	170.7	203.4	179.2	206.8*	200.9*	143.9*	180.1
3	131.7	169.9	164.2	203.5*	187.4*	173.3	194.2	164.3	216.1*	213.4	145.1	180.8
4	132.0*	177.4	165.3	192.7*	187.7	181.4	183.5	176.0	228.9*	218.1	141.7	175.3*
5	138.7*	181.2	169.5	194.9	187.4	180.1*	179.3	169.6	230.2	204.5	141.6	177.1
6	137.4	172.2*	164.5	190.9	186.5	182.4	176.1	171.1*	238.1	211.3	149.5	180.4*
7	141.6	174.6	178.5*	186.2	183.4	183.1*	166.7	178.0	238.1	207.2	151.1	185.3
8	150.1	168.0*	189.9	200.1	207.2*	178.9	169.0*	182.4*	242.7	206.7	152.7	183.6
9	155.8	164.9*	189.6	192.6	198.7	181.4	169.6	181.3	247.4*	197.9*	157.3	187.4
10	162.3	166.3	204.7	186.2	188.4*	180.6	173.0	174.7	239.9	185.9	152.1*	184.6
11	171.6*	163.7	213.5	179.5	202.2*	181.7*	170.0*	178.6	229.6	178.6	154.4	181.5*
12	177.2	156.4	217.3	174.5	195.4	184.7	174.5	184.2	208.3	170.1	144.9	181.7
13	178.5	145.3	213.6*	193.3	195.4	186.3	175.8	186.6	193.7	161.4	155.8	186.1
14	180.1	136.3	197.0	200.0*	204.2*	189.4	178.9	182.0	185.7	154.7*	158.2*	192.6*
15	182.0	133.8	192.7	192.1*	215.3*	181.3	168.1	181.9	176.0	151.1	167.6	193.8
16	176.7*	128.8	183.5	183.9*	233.2	183.5*	171.7	176.4	167.5	143.6	164.8	196.3*
17	171.5	128.1	177.7	175.7	213.1	177.7	168.0	187.7	154.1	142.7	165.8	202.7*
18	169.4	127.4	161.5	177.6	217.7	188.6*	158.7	171.3*	152.6	141.2	180.0	215.7
19	170.4	128.9	152.9	187.8	237.8	177.6	159.4	161.5	146.2	143.6	186.4	218.1*
20	171.0	134.9	138.1	197.2	230.1*	184.1	156.1	155.6	151.5	145.6	204.2*	213.9*
21	166.9*	126.0	132.1*	213.3	225.1	182.2	161.5	155.7	148.9	143.7*	207.5*	218.4
22	161.4	127.1	132.7	226.9	223.3	181.1	159.7*	156.5*	141.1	155.7	223.2	216.5
23	161.4	121.9	133.4	225.1	196.0	188.5	162.3	156.0	139.0	163.1*	218.6	224.2*
24	156.9	123.5	135.2*	208.5	192.9	188.3	161.9	159.2*	141.2	168.6	225.2	233.7
25	156.1	124.7*	138.0	206.1	187.5	188.2	172.5	153.3*	147.8	164.5	229.3*	235.5
26	154.4	132.7	144.2	192.9	166.0	200.2	182.0	149.1	153.7	165.6	223.3	223.9*
27	150.7	144.4*	148.7*	205.4	162.7	187.9	195.1*	149.4	158.5	159.1*	212.8	228.7*
28	148.4*	154.1	164.1	209.6	163.6	188.6	192.1*	149.2	159.1	158.1	214.2	233.8
29	149.8	162.2	166.2	209.3		191.4	185.7	150.2	166.9	156.7	197.6	225.0
30	146.5	167.8	181.7	194.1*		186.6	185.2*	158.4	176.7*	160.3	187.8	231.9
31	144.0		195.1	193.7		201.4*		174.9		152.4	179.9	
MEAN	157.1	148.2	170.0	196.5	199.1	184.0	175.0	168.9	186.0	171.4	177.0	202.3

* adjusted for burst
A = interpolated data point

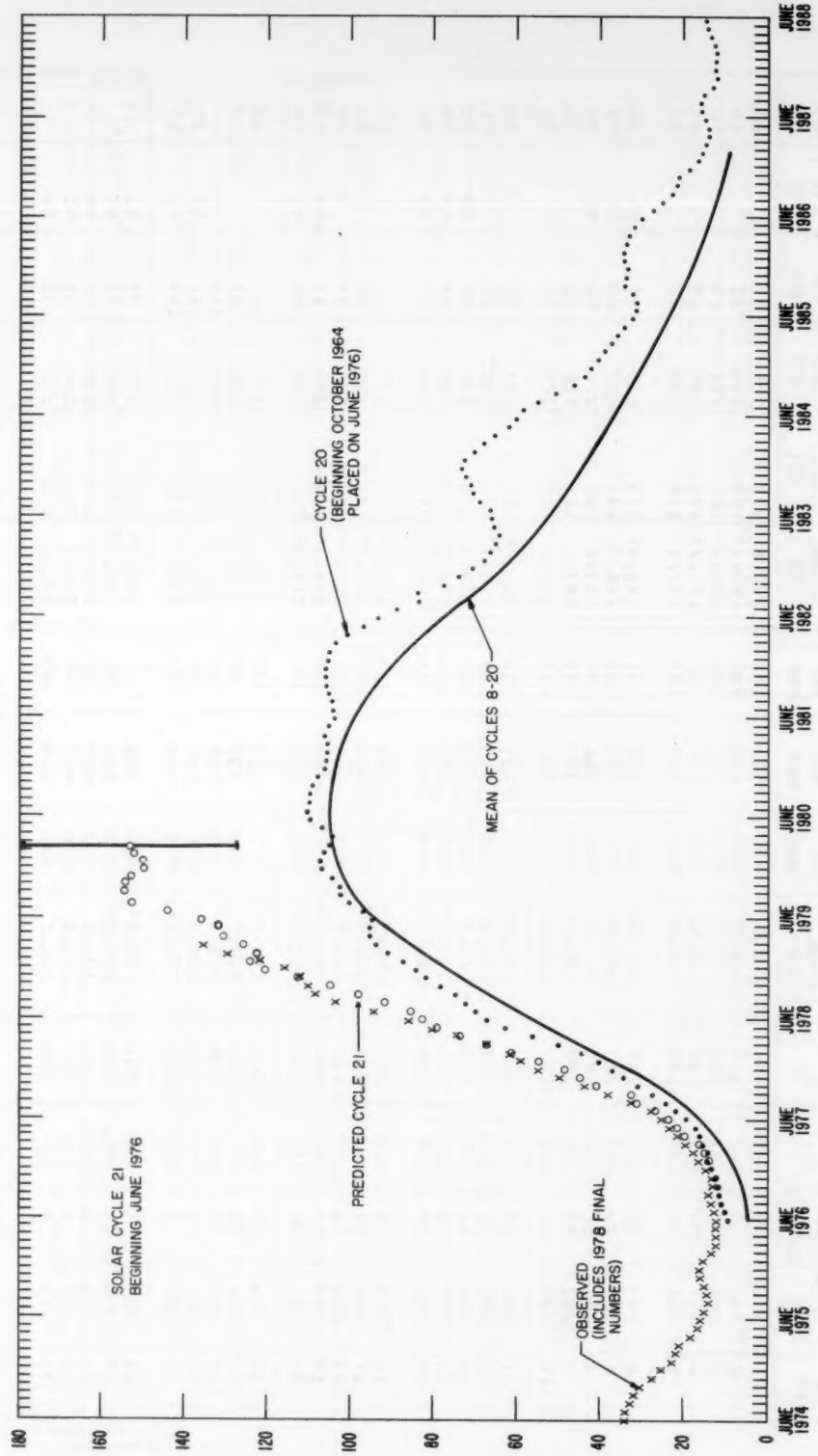
DAILY SOLAR INDICES

SEPTEMBER 1979

SEP 1979	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	244	5	165	134	172.7	585	389	191	175.8	173	128	83		22
2	245	6	141	119	176.9	580	372	202	180.1	178	126	80		23
3	246	7	148	161	177.8	583	376	205	180.8	183	123	81		56
4	247	8	157	160	172.4*	573	393	199	175.3*	179	133	87		34
5	248	9	139	139	174.3	568	367	195	177.1	178	124	85		38
6	249	10	139	137	177.6*	531	342	197	180.4*	179	129	80	55	34
7	250	11	170	163	183.5	582	382	198	186.3	181	122	82	51	29
8	251	12	192	159	180.9	566	366	195	183.6	182	122	79	51	24
9	252	13	190	153	184.8	597	380	209	187.4	188	122	88		20
10	253	14	177	165	182.1	571	360	205	184.6	186	124	80		22
11	254	15	167	163	179.2*	596	401	216	181.5*	184	123	99		20
12	255	16	156	152	179.4	566	376	195	181.7	179	121	83		21
13	256	17	175	164	183.7	584	388	197	186.1	184	129	85	50	20
14	257	18	186	172	190.1*	565	383	216	192.6*	191	138	91	47	35
15	258	19	177	168	191.7	588	410	218	193.8	198	136	97	46	36
16	259	20	170	165	194.2*	595	423	226	196.3*	198	137	102		28
17	260	21	155	137	200.7*	577	423	223	202.7*	202	140	85		21
18	261	22	177	160	213.8	598	424	233	215.7	215	136	77		20
19	262	23	195	174	216.2*	596	449	238	218.1*	229	148	81	44	20
20	263	24	191	166	212.2*	589	433	235	213.9*	227	145	89	40	18
21	264	25	184	184	216.7	579	409	230	218.4	221	154	115		20
22	265	26	178	208	215.0	568	375	219	216.5	203	142	87		19
23	266	27	219	275	222.6*	573	416	230	224.2*	239	151	110		
24	267	1	236	276	229.3	598	411	239	230.7	236	151	110	47	25
25	268	2	252	277	234.3	596	404	229	235.5	231	160	104	42	23
26	269	3	261	261	228.8*	596	394		229.9*	228	156	93	41	
27	270	4	256	230	227.8*	608	414	221	228.7*	221	142	88	43	
28	271	5	239	244	232.9	587	425	236	233.8	223	153	90	46	
29	272	6	235	217	224.3	574	407	240	225.0	212	144	88	51	
30	273	7	233	238	231.2	572	379	259	231.9	208	152	91	54	
MEAN			188.7	184.0	200.2	581	396	217	202.3	201	137	90	47	27

*Adjusted for burst.

Note: Data gaps in AFGL Sagamore Hill are due to equipment problems.



OBSERVED AND PREDICTED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15.2	13.2	12.2	12.6	12.5	12.2	12.9	14.0	14.3	13.4	13.5	14.8
1977	16.7	18.1	20.0	22.2	24.2	26.3	29.0	33.4	39.1	45.6	51.9	56.9
1978	61.3	64.5	69.6	76.9	83.2	89.3	97.4	104.0	108.4	111.0	113.3	116.7
1979	122.8	130.4	136.1	139.4	142.4	147.1	151.7	154.9	157.0	158.2	158.6*	157.9
				(5)	(9)	(12)	(14)	(16)	(17)	(19)	(22)	(24)
1980	156.3	154.6	153.5	153.5	152.7	149.2	145.4	142.2	140.2	139.2	137.8	136.5
	(26)	(27)	(26)	(28)	(30)	(33)	(37)	(39)	(39)	(41)	(42)	(45)
1981	136.5	136.1	133.5	130.4	127.6	124.8	123.6	123.4	122.7	121.3	118.8	115.5
	(48)	(47)	(45)	(44)	(45)	(45)	(44)	(42)	(42)	(42)	(40)	(38)
1982	112.2	108.8	106.4	104.6	102.3	99.9	96.0	91.2	86.8	82.0	78.5	75.0
	(36)	(35)	(35)	(33)	(31)	(29)	(27)	(25)	(24)	(21)	(20)	(20)
1983	70.9	67.9	65.9	63.9	61.6	59.1	57.0	55.2	53.5	52.4	51.6	50.7
	(20)	(20)	(21)	(21)	(22)	(22)	(24)	(25)	(27)	(29)	(30)	(30)
1984	49.4	47.4	44.3	40.9	38.3	37.3	36.3	34.8	33.2	31.9	30.6	29.0
	(31)	(30)	(29)	(29)	(30)	(31)	(32)	(31)	(31)	(29)	(28)	(27)
1985	27.8	27.1	26.4	25.9	25.2	24.2	23.3	22.5	21.8	21.0	20.1	19.5
	(27)	(27)	(26)	(26)	(26)	(25)	(23)	(23)	(22)	(23)	(24)	(24)
1986	19.0	18.2	17.4	16.4	15.0	13.8	12.8	12.2	12.0	11.7	11.6	11.6
	(24)	(24)	(24)	(23)	(22)	(21)	(20)	(19)	(17)	(16)	(15)	(13)
1987	11.9	12.5	13.3	14.4	15.5	16.6	17.7					
	(12)	(11)	(11)	(12)	(13)	(13)	(14)					

The table gives observed Zürich smoothed sunspot numbers for Cycle 21 up to the one calculated from the latest observed data, marked by a vertical bar. They are based on final Zürich numbers through 1978 and provisional Zürich numbers thereafter. Some of these data after the June 1976 value will change slightly when final data for 1979 are received. The numbers after the vertical bar are predictions by the McNish-Lincoln method (see *Explanation of Data Reports*, February 1978). Shown in parentheses are the corresponding absolute values of the 90% confidence interval, an indication of the uncertainty above and below the predicted number.

The McNish-Lincoln method is very sensitive to the identification of a minimum epoch. In SGD 390-401 issues, the Cycle 21 predictions were based on March 1976 as the minimum epoch. Latest studies, including one published by Waldmeier, show that June 1976 is the more appropriate epoch of minimum. Thus, we have adopted a June 1976 mimimum.

*Prediction of Sunspot Maximum -- The McNish-Lincoln prediction method is recommended for predictions up to only one year ahead. From that point, the predictions regress rapidly towards the mean value. Combining this McNish-Lincoln prediction of sunspot maximum with the Ohl method (as done by Sargent, see *Explanation of Data Reports*, February 1979) indicates that the most probable value for sunspot maximum is 158 ± 23.

Hα SOLAR FLARES

SEPTEMBER 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PALE	01	0340	0341	0342	N12	E52	.821		5.1	2	SF	3	C		33		DE
PALE	01	0401	0404	0408	N12	E52	.821		5.1	7	SF	3	C		28		DE
ISTA	01	0620E		0633	S20	E90	.999	16267	8.0	130	1N		V				AB
ISTA	01	0635		0643	N11	E51	.808		5.1	8	SN		V				D
ISTA	01	0644		0653	N22	E45	.823		4.9	9	SN		V				D
BIGB	01	1437	1439	1449	N16	W77	.984		23.8	12	SN	2	C	1439	70		
HOLL	01	1456	1458	1515	S23	W44	.708		26.3	19	SF	3	C		39		
HOLL	01	1457	1515	1551	N20	E42	.760		4.8	54	SF	3	C		75		F
BIGB	01	1457	1505	1540	N19	E44	.773		4.9	43	SN	2	C	1505	80	1.1	
BIGB	01	1458	1502	1520	N23	E42	.777		4.8	22	SN	2	C	1502	80	1.1	
BIGB	01	1524	1526	1537	S14	W65	.899		24.8	13	SN	2	C	1526	30		
BIGB	01	1601	1604	1607D	N16	W77	.984		23.9	6D	SN	2	P	1604	70		
HOLL	01	1654	1729	1742	N 5	W85	.997		23.3	48	SN	3	C		34		
HOLL	01	1714	1727	1804	N20	E40	.741		4.7	50	SN	3	C		33		
BIGB	01	1823	1824	1829	S14	W67	.914		24.7	6	SN	3	P	1824	40		
BIGB	01	1851	1857	1903	S34	W90	.998		23.0	12	SN	3	C	1857	40		
BIGB	01	1947	1948	1953	N11	E46	.758		5.3	6	SN	3	C	1948	40	.6	
HOLL	01	1949	1949	1957	N12	E40	.697		4.8	8	SB	3	C		21		DE
BIGB	01	2322	2326	2339	S34	W90	.998		23.2	17	SN	3	C	2326	90		
BIGB	01	2328	2336	2352	S23	E75	.958		7.6	24	SN	3	C	2336	120		A
MANI	02	0030E	0039	0047D	S19	E67	.913	16267	7.0	17D	1N	3	C		100		F
PALE	02	0303	0308	0329	S19	E65	.899		7.0	26	SF	2	C		71		DE
ISTA	02	0700E	0703	0723	N18	W20	.530	16252	28.8	23D	2B		V				GUVW
BUCA	02	0710E		0726	N17	W17	.492		1.0	16D	SF		C	0710	193	2.1	
ISTA	02	0737	0744	0752	S21	E64	.892		7.1	15	SN		V				D
HOLL	02	1345	1345	1405	N13	E30	.588		4.8	20	SF	3	C		41		
BIGB	02	1735	1737	1745	N15	W63	.915		26.0	10	SN	2	C	1737	30	.7	
BIGB	02	1837	1842	1932	N15	W63	.915		26.1	55	SN	2	C	1842	60	1.4	
BIGB	02	2004	2006	2008D	S25	E65	.901		7.7	40	SN	2	P	2006	20		
BIGB	02	2029	2041	2101	S20	E65	.899		7.7	32	SB	3	C	2041	50		
BIGB	02	2255	2257	2303D	S32	W90	.998		24.2	8D	SN	3	P	2257	40		
HOLL	02	2329	0039	0043D	S20	E66	.906	16267	7.9	74D	1B	3	C		122		DE
MANI	03	0435E	0435	0450	S19	E55	.815	16267	7.3	15D	1B	3	C		200		
ISTA	03	0734		0758	S21	W67	.913		26.3	24	SN		V				D
ISTA	03	0825		0837	S21	W67	.913		26.3	12	SN		V				E
HOLL	03	1421	1421	1455	N12	E16	.422		4.8	34	SF	3	C		24		
BIGB	03	1759	1800	1806	N14	E34	.641		6.3	7	SN	3	C	1800	10	.1	
BIGB	03	1856	1901	1919	N15	E32	.626		6.2	23	SB	3	C	1901	70	.9	
HOLL	03	1857	1859	1921	N14	E29	.585		6.0	24	SB	3	C		138		DE
RANY	03	1857	1859	1915	N14	E29	.585		6.0	18	SB	2	C		100		UDE
PALE	03	1905E	1905U	1917	N14	E32	.618		6.2	12D	SB	2	C		109		UDE
BIGB	03	1918	1920	1935	N24	W28	.663		1.7	17	SF	3	C	1920	20	.2	
HOLL	03	2101	2113	2117	N15	E30	.604		6.1	16	SF	3	C		28		
BIGB	03	2150	2155	2239D	S24	E50	.774		7.7	49D	SN	3	P	2155	80	1.3	
HOLL	04	1343	1343	1404	N15	E21	.507		6.1	21	SN	3	C		114		F
HOLL	04	1415	1618	1641	N14	W36	.663	16252	1.9	146	1N	3	C		187		DE
HOLL	04	1440	1521	1628	S21	W29	.518		2.4	108	SN	3	C		42		
BIGB	04	1521	1526	1602	N15	W35	.659		2.0	41	SF	2	C	1526	50	.6	
BIGB	04	1536	1538	1544	N12	W37	.663		1.9	8	SF	2	C	1538	50	.6	
BIGB	04	1600	1603	1620	S21	W29	.518		2.5	20	SN	2	C	1603	40	.5	
BIGB	04	1614	1619	1654	N17	W33	.651		2.2	40	SN	2	C	1619	120	1.5	
BIGB	04	1621	1626	1643	N14	E19	.476		6.1	22	SF	2	P	1626	20	.2	
BIGB	04	1629	1637	1655	N16	E17	.480		6.0	26	SF	2	C	1637	30	.3	
BIGB	04	1658	1659	1700	N12	W39	.686		1.8	2	SN	2	C	1659	10	.1	
BIGB	04	1704	1711	1808	N14	E16	.447		5.9	64	SB	2	C	1711	90	1.0	
HOLL	04	1704	1706	1740	N16	E21	.518		6.3	36	SB	3	C		114		FDE
BIGB	04	1740	1742	1822	N13	E16	.434		5.9	42	SF	2	C	1742	40	.4	
HOLL	04	1759	1807	1845	S21	W30	.531		2.5	46	SN	3	C		60		
BIGB	04	1801	1804	1821	S21	W31	.544		2.4	20	SN	3	C	1804	20	.2	
HOLL	04	1836	1842	1914	N17	W39	.714		1.9	38	SF	3	C		32		
BIGB	04	1836	1843	1903	S19	W31	.535		2.5	27	SF	3	C	1843	20	.2	
BIGB	04	1905	1910	1925	N12	W39	.686		1.9	20	SN	3	C	1910	70	.9	
HOLL	04	1943	1943	1951	S21	W32	.557		2.4	8	SF	3	C		24		
HOLL	04	2007	2012	2022	N15	E15	.450		6.0	15	SN	3	C		35		
BIGB	04	2009	2010	2036	N14	W16	.447		3.6	27	SB	3	C	2010	20	.2	
HOLL	04	2048	2048	2054	N15	E15	.450		6.0	6	SN	3	C		35		
BIGB	04	2048	2049	2054	N14	W17	.456		3.6	6	SN	3	C	2049	20	.2	
BIGB	04	2056	2057	2104	N14	W16	.447		3.7	8	SN	3	C	2057	50	.5	
HOLL	04	2057	2111	2138	N15	E15	.450		6.0	41	SN	3	C		48		F

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
BIGB	04	2109	2111	2148	N14	W17	.456		3.6	39	SB	3	C	2111	20	.2	
HOLL	04	2210	2211	2223	N15	E14	.442		6.0	13	SN	3	C		27		
BIGB	04	2239	2242	2310	N15	W39	.702		2.0	31	SF	3	C	2242	30	.4	
BIGB	04	2242	2243	2251	N20	W35	.693		2.3	9	SF	3	C	2243	30	.4	
HOLL	04	2243	2243	2305	N13	W41	.713		1.9	22	SF	3	C		66		
HOLL	04	2316	2317U	2318D	N15	E14	.442		6.0	2D	SB	3	C		96		DE
WEND	05	0705E		0712D	N15	E11	.419		6.1	7D	SF		C	0705	56	.6	
WEND	05	0705E		0712D	S20	W37	.616		2.5	7D	SN		C	0707	50	.7	
ISTA	05	0710E		0725	S21	W38	.632		2.4	15D	SN		V				BEF
MANI	05	0715E	0715U	0720	S20	W33	.565		2.8	5D	SN	3	C		80		
ISTA	05	0719		0745	N12	E69	.947	16275	10.5	26	1N		V				KU
ISTA	05	0837		0858	N12	E69	.947	16275	10.5	21	1N		V				KU
ISTA	05	0905		0910	N21	W05	.480		5.0	5	SF		V				D
BIGB	05	1424	1425	1436	N16	E79	.989		11.5	12	SB	2	C	1425	100		A
HOLL	05	1528	1529	1536	N19	W51	.836		1.8	8	SF	3	C		26		
HOLL	05	1654	1654	1701	N13	W51	.815		1.9	7	SF	3	C		18		
BIGB	05	1802	1808	1842	N12	W11	.377		4.9	40	SN	3	C	1808	70	.7	G
HOLL	05	1803	1808	1828	N13	W14	.416		4.7	25	SN	3	C		45		F
BIGB	05	1958	2012	2038	N37	W69	.978		28.7	40	SF	3	P	2012	40		G
BIGB	05	2012	2018	2027	N16	E02	.396		6.0	15	SF	3	P	2018	30	.3	
ISTA	06	0612E		0630D	N11	E56	.854		10.5	18D	SN		V				D
ISTA	06	0616		0621	N12	W62	.903		1.6	5	SN		V				E
MONT	06	0726	0727	0731	N14	W05	.372		5.9	5	SF		C	0727	50		
WEND	06	0727		0801	N20	W21	.562		4.7	34	SF		C	0736	56	.7	
MONT	06	0727	0729	0752	N21	W19	.557		4.9	25	SF		C	0729	50		E
WEND	06	0732		0807	N11	E56	.854		10.5	35	SN		C	0738	30	.6	T
WEND	06	0819		0836	S15	E42	.667		9.5	17	SF		C	0820	38	.5	G
MONT	06	0822	0824	0829	N14	W05	.372		6.0	7	SF		C	0824	50		
MONT	06	0906	0907	0911	N20	W64	.931		1.6	5	SF		C	0907	50		D
MONT	06	0951	0955	0958	N21	W20	.565		4.9	7	SF		C	0955	60		E
WEND	06	1210	1212	1224	N22	W60	.911	16252	2.0	14	1N		C	1212	105	2.3	
WEND	06	1332		1339D	N17	W63	.919		1.8	7D	SN		C	1337	80	1.9	
HOLL	06	1333	1336	1346	N16	W64	.924		1.8	13	SN	3	C		80		
HOLL	06	1350	1355	1402	N17	W61	.906		2.0	12	SF	3	C		30		
HOLL	06	1411	1412	1418	N17	W61	.906		2.0	7	SF	3	C		19		
BIGB	06	1534	1537	1557	N18	W60	.902	16252	2.1	23	1N	2	C	1537	120	2.5	
HOLL	06	1535	1539	1556	N17	W63	.919		1.9	21	SF	3	C		103		
BIGB	06	1601	1604	1610	N21	W66	.943		1.7	9	SN	2	C	1604	20		
BIGB	06	1636	1637	1700	N16	W64	.924		1.9	24	SN	2	C	1637	20	.5	
HOLL	06	1637	1647	1657	N17	W64	.925		1.9	20	SB	3	C		64		DE
BIGB	06	1645	1646	1658	N16	W68	.947		1.6	13	SN	2	C	1646	50		
WEND	06	1646		1654	N17	W65	.931		1.8	8	SF		C	1648	30		
BIGB	06	1930	1932	1945	N23	W26	.636		4.9	15	SF	2	C	1932	30	.3	
BIGB	06	1950	1951	2011	S17	W05	.189		6.5	21	SN	2	C	1951	20	.2	
BIGB	06	2055E	2055	2100	N10	E48	.775		10.5	5D	SN	2	P	2055	40	.6	
BIGB	06	2103	2104	2112	N20	W65	.936		2.0	9	SN	2	C	2104	50		
BIGB	06	2205	2207	2212D	N18	E49	.815		10.6	7D	SN	2	P	2207	30	.5	
BIGB	07	0057	0058	0102D	S17	W58	.216		6.4	5D	SB	1	P	0058	40	.4	
MANI	07	0100E	0100U	0110D	S18	W 5	.205		6.7	10D	SB	3	C		180		ZDE
PALE	07	0105E	0105U	0105D	S18	W 0	.187		7.0		SF	2	C		42		F
BUCA	07	0616		0655	N15	W17	.468		6.0	39	SF		C	0630	107	1.2	
MONT	07	0947	1001	1010	N22	W75	.982	16252	1.8	23	1N		C	1001	220		
MONT	07	1113	1115	1128	S17	W13	.276		6.5	15	SN		C	1115	70		E
HOLL	07	1506	1509	1519	N15	W22	.517		6.0	13	SF	3	C		21		
HOLL	07	1515	1516	1525	N21	W37	.720		4.9	10	SF	3	C		40		
BIGB	07	1605	1616	1627	N15	W22	.517		6.0	22	SN	2	C	1616	50	.6	
HOLL	07	1612	1614	1618	S16	W15	.294		6.6	6	SF	3	C		24		
BIGB	07	1613E	1613E	1627	S17	W15	.302		6.6	14D	SN	2	P	1613	30	.3	
WEND	07	1613D		1619D	S17	W16	.316		6.5	6D	SN		C	1613	38	.4	
WEND	07	1615		1619D	N15	W23	.528		6.0	4D	SN		C	1617	50	.6	
HOLL	07	1616	1616	1626	N15	W22	.517		6.0	10	SN	3	C		66		
BIGB	07	1712	1713	1719	N16	W21	.518		6.1	7	SN	2	C	1713	50	.6	
HOLL	07	1713	1713	1722	N15	W23	.528		6.0	9	SN	3	C		66		
BIGB	07	1717	1722	1727	N11	E80	.989		13.7	10	SN	3	C	1722	20		
HOLL	07	1836	1837	1846	N17	E45	.773		11.2	10	SF	3	C		27		
HOLL	07	1908	1909	1929	N16	E38	.697		10.6	21	SB	3	C		44		DE
BIGB	07	1948	1950	2007	S17	W17	.330		6.6	19	SB	3	C	1950	70	.8	
HOLL	07	1948	1951	2005	S15	W17	.315		6.6	17	SB	3	C		162		DE
PALE	07	1949	1951	2002	S17	W17	.330		6.6	13	SB	3	C		135		FDE

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	07	2035	2038	2055	N18	E42	.749		11.0	20	SF	3	C		31		
BIGB	07	2057	2058	2102	N16	W25	.559		6.0	5	SB	3	C	2058	70	.8	
HOLL	07	2058	2058	2102	N17	W25	.568		6.0	4	SB	3	C		69		
BIGB	07	2108	2110	2129	N16	E46	.779		11.3	21	SF	3	C	2110	20	.3	
HOLL	07	2109	2109	2118	N19	E46	.792		11.3	9	SN	3	C		26		
HOLL	07	2147	2149	2153	N16	E34	.655		10.5	6	SF	3	C		42		
PALE	07	2207	2209	2226	N14	W26	.551		6.0	19	SF	3	C		28		DE
BIGB	07	2208	2209	2223	N15	W26	.560		6.0	15	SN	3	C	2209	40	.5	
HOLL	07	2208	2208	2222	N15	W25	.549		6.0	14	SN	3	C		56		
PALE	08	0319	0322	0330	N14	W29	.585		6.0	11	SF	3	C		23		DE
PALE	08	0338	0351	0407D	N15	E39	.702		11.1	29D	SF	3	C		49		U
MANI	08	0402E	0409	0416	N21	W42	.766		5.0	14D	SF	3	C		100		U
PALE	08	0405	0405	0407D	N22	W44	.789		4.9	2D	SN	3	C		37		F
WEND	08	0637E		0645	S15	W25	.434		6.4	8D	SN		C	0637	32	.4	B
ISTA	08	0640E		0643	S16	W27	.467		6.3	3D	SN		V				BD
ISTA	08	0644		0715	S23	W90	.999	16271	1.5	31	2B		V				A
WEND	08	0645	0657	0710	S22	W80	.978		2.3	25	SN		C	0657	40		A
ATHN	08	0646	0649	0705	S21	W78	.971		2.4	19	SB	3	C		64		DE
ISTA	08	0728		0732	N17	W27	.589		6.3	4	SN		V				E
MONT	08	0843	0845	0852	S17	W25	.443		6.5	9	SF		C	0845	50		D
MONT	08	0857	0908	0929	N16	E38	.697	16225	11.2	32	1B		C	0908	250		
WEND	08	0904E		0920D	N16	E37	.687	16275	11.2	16D	1N		P	0906	162	2.2	F
BIGB	08	1515	1517	1531	N13	E27	.554		10.7	16	SB	3	C	1517	30	.3	
WEND	08	1518E		1527	N13	E27	.554		10.7	9D	SF		C	1518	44	.5	
BIGB	08	1817	1856E	1911	N14	W90	1.000		2.0	54	SB	1	P	1856	50		
BIGB	08	1854	1856	1911	N25	W52	.866		4.9	17	SN	3	C	1856	20	.3	
HOLL	08	1855	1857	1908	N25	W53	.873		4.8	13	SN	3	C		40		
PALE	08	1855	1857	1906	N24	W51	.855		5.0	11	SN	3	C		38		DE
PALE	08	2056	2057	2101	N15	E30	.604		11.1	5	SF	3	C		21		F
PALE	09	0008	0010	0029D	N15	E28	.582		11.1	21D	SF	3	C		33		F
PALE	09	0151	0200	0232	N15	E27	.571		11.1	41	SN	3	C		103		F
MANI	09	0241	0246	0256D	N15	E28	.582		11.2	15D	SN	3	C		50		F
PALE	09	0243E	0248U	0309	N16	E29	.601	16275	11.3	26D	1B	3	C		199		U F
ISTA	09	0748		0825	N14	W44	.750		6.0	37	SF		V				EK
ISTA	09	0818	0825	0835	S20	W32	.552		6.9	17	SN		V				D
WEND	09	0923		0935	N15	E24	.538		11.2	15	SF		C	0922	60	.7	
HOLL	09	1358	1416	1436	N11	W54	.836		5.5	40	SN	3	C		50		F
RAMY	09	1526	1629	1636	N16	E59	.890		14.1	70	SN	3	C		262		
BIGB	09	1623	1624	1634	N10	E55	.843		13.8	11	SN	3	C	1624	60	1.1	
BIGB	09	1722	1726	1732	N13	W49	.796		6.0	10	SN	3	C	1726	40	.6	
PALE	09	1722	1723	1734	N12	W49	.792		6.0	12	SN	3	C		19		DE
BIGB	09	1728	1729	1742	N13	E53	.833		13.7	14	SN	3	C	1729	20	.3	
BIGB	09	1922	1922	1937	N13	E52	.824		13.7	15	SB	3	C	1922	50	.8	
MANI	10	0159E	0159U	0206D	N13	W54	.842		6.0	7D	SF	3	C		15		
RAMY	10	1357	1359	1410	N17	E 9	.436		11.3	13	SB	3	C		142		FDE
RAMY	10	1400	1401	1409	N14	W59	.885		6.2	9	SF	3	C		24		
HOLL	10	1401	1401	1411	N16	W 1	.395		10.5	10	SN	3	C		69		
BIGB	10	1432	1433	1443	N14	E40	.707		13.6	11	SF	3	C	1433	30	.4	
HOLL	10	1457	1510	1539	N14	W62	.907		6.0	42	SN	4	C		71		F
RAMY	10	1505	1510	1530	N14	W60	.893		6.1	25	SF	3	C		36		F
BIGB	10	1505	1512	1536	N15	W62	.909		6.0	31	SB	2	C	1512	50	1.1	
BIGB	10	1545	1549	1624	N17	E45	.773		14.0	39	SN	3	C	1549	50	.7	
RAMY	10	1549	1549	1557	N13	E44	.745		14.0	8	SF	3	C		37		
BIGB	10	1608	1609	1619	N14	E40	.707		13.7	11	SF	3	C	1609	30	.4	
PALE	10	1654	1705	1724	N13	E40	.702		13.7	30	SN	3	C		30		
HOLL	10	1655	1657	1727	N16	E39	.708		13.6	32	SN	3	C		56		
PALE	10	1735	1741	1759	N13	W62	.905		6.1	24	SN	3	C		92		F
HOLL	10	1737	1740	1810	N13	W62	.905		6.1	33	SB	3	C		98		
BIGB	10	1738	1741	1808	N14	W13	.420		9.6	30	SB	3	C	1741	110	1.2	
BIGB	10	1755	1757	1836	N14	E40	.707		13.7	41	SN	3	C	1757	30	.4	
HOLL	10	2015	2018	2023	N14	E37	.675		13.6	8	SF	3	C		23		
HOLL	10	2147	2153	2158	S25	W28	.531		8.8	11	SF	3	C		21		
HOLL	10	2239	2244	2359	N10	E41	.699		14.0	80	SB	2	C		161		U F
MANI	10	2243E	2246	2305	N 9	E40	.683		13.9	22D	SN	3	C		150		U F
HOLL	10	2249	2253	2301	N14	E34	.641		13.5	12	SF	2	C		35		
HOLL	11	0001	0001	0008	N14	W66	.933		6.1	7	SN	2	C		24		
HOLL	11	0029	0032	0041	N14	E34	.641		13.6	12	SN	2	C		50		F
MONT	11	0844	0846	0851	N16	W73	.970		5.9	7	SF		C	0846	50		E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
MONT	11	0954	1009	1021	N11	E31	.585	16279	13.7	27	1N		C	1009	250		
RAMY	11	1259	1300	1309	N 9	E32	.585		13.9	10	SN	3	C		36		
RAMY	11	1338	1339	1350	N 9	E32	.585		14.0	12	SN	3	C		35		
HOLL	11	1342E	1349	1524	N16	W 8	.415	16275	11.0	102D	2B	3	C		701		Z U
RAMY	11	1343	1347	1524	N16	W 7	.411	16275	11.0	101	1B	3	C		391		Z U
RAMY	11	1346	1347	1413	N13	W17	.444		10.3	27	SN	3	C		32		F
RAMY	11	1403	1414	1429	N 9	E32	.585		14.0	26	SF	3	C		72		F
BIGB	11	1409E	1409D	1427E	N15	W08	.400	16275	11.0	18D	1B	2	P	1409	260	2.7	
BIGB	11	1414	1416	1558	N17	E35	.672		14.2	104	SN	2	C	1416	30	.4	
BIGB	11	1512	1516	1540	N09	E31	.572		14.0	28	SF	3	C	1516	70	.8	
RAMY	11	1517	1519	1526	N14	E26	.551		13.6	9	SN	3	C		23		
BIGB	11	1517	1518	1527	N11	E27	.537		13.7	10	SB	3	C	1518	20	.2	
BIGB	11	1538	1539	1547	N12	E26	.533		13.6	9	SB	3	C	1539	20	.2	
BIGB	11	1555	1557	1608	S22	W67	.914		6.6	13	SB	3	C	1557	80		
HOLL	11	1555	1600	1606	S18	W66	.906		6.7	11	SN	3	C		50		
RAMY	11	1556	1557	1608	S22	W64	.893		6.9	12	SB	3	C		83		
BIGB	11	1635	1636	1640	N12	E30	.581		13.9	5	SN	3	C	1636	60	.7	
RAMY	11	1636	1636	1639	N14	E25	.540		13.6	3	SF	3	C		38		
RAMY	11	1638	1642	1714	N14	W10	.398		10.9	36	SB	3	C		168		
BIGB	11	1638	1640	1723	N16	W10	.427		10.9	45	SB	3	C	1640	150	1.6	
HOLL	11	1642	1643	1717D	N16	W 9	.421		11.0	35D	SB	3	C		168		FDE
PALE	11	1706	1709	1718	N 9	E28	.534		13.8	12	SF	3	C		30		F
PALE	11	1707	1711	1717	N15	W11	.419		10.9	10	SF	3	C		53		F
BIGB	11	1707	1717	1758	S15	W30	.506		9.5	51	SN	3	C	1717	70	.8	G
BIGB	11	1723	1724	1729	N20	E80	.993		17.7	6	SN	3	C	1724	20		
PALE	11	1742	1750	1816	N13	W18	.454		10.4	34	SN	3	C		123		F
RAMY	11	1743	1750	1816	N13	W19	.464		10.3	33	SN	3	C		57		
BIGB	11	1749	1752	1831	N10	W18	.420		10.4	42	SB	3	P	1752	80	.9	
BIGB	11	1758	1801	1828	N08	W30	.553		9.5	30	SN	2	P	1801	40	.5	
RAMY	11	1759	1801	1819	N 9	E29	.547		13.9	20	SN	3	C		48		
HOLL	11	1800	1801	1819	N 8	E29	.540		13.9	19	SN	3	C		57		
PALE	11	1801	1801	1807	N 9	E28	.534		13.9	6	SF	3	C		37		F
PALE	11	1840	1841	1859	N 9	E27	.521		13.8	19	SF	3	C		20		F
RAMY	11	1840	1840	1851	N 9	E29	.547		14.0	11	SN	3	C		25		
RAMY	11	1943	1952	2005	N 9	E28	.534		13.9	22	SN	3	C		59		
HOLL	11	1944	1952	2007	N 9	E29	.547		14.0	23	SN	3	C		55		F
BIGB	11	2119	2122	2148D	N07	E29	.533		14.1	29D	SN	2	P	2122	60	.7	
HOLL	11	2251	2252	2324	N12	W22	.487		10.3	33	SN	3	C		69		
BIGB	11	2251	2252	2337D	N10	W20	.444		10.5	46D	SN	2	P	2252	50	.6	
HOLL	11	2255	2257	2315D	N16	W14	.455		10.9	20D	SF	3	C		40		
HOLL	11	2328	2331	2331D	N16	W15	.463		10.9	3D	SF	2	C		40		
BIGB	11	2337E	2340	2348	N11	E23	.489		13.7	11D	SB	2	P	2340	40	.4	
HOLL	11	2346E	0023	0029D	N10	W23	.480		10.3	43D	SN	2	C		97		
HOLL	12	0012	0013	0021	N10	E27	.529		14.0	9	SN	2	C		34		F
BIGB	12	0012	0013	0028	N09	E29	.547		14.2	16	SN	2	C	0013	20	.2	
BIGB	12	0054	0055	0059D	N09	W23	.471		10.3	5D	SN	2	P	0055	60	.6	
MANI	12	0101E	0101U	0150	N10	W23	.480		10.3	49D	SN	3	C		100		F
ISTA	12	0737	0739	0743	N10	W28	.541		10.2	6	SF		V				D
MONT	12	1017	1020	1026	N15	E17	.468		13.7	9	SF		C	1020	60		E
RAMY	12	1228	1231	1336	S23	W67	.914		7.5	68	SN	3	C		0		
BIGB	12	1538	1540	1553	S31	W60	.872		8.2	15	SN	2	C	1540	30	.6	
RAMY	12	1540	1542	1547	S35	W60	.878		8.2	7	SF	3	C		22		
HOLL	12	1641	1642	1657	S31	W60	.872		8.2	16	SN	3	C		27		
BIGB	12	1641	1643	1659	S31	W60	.872		8.2	19	SB	2	C	1643	20	.4	
RAMY	12	1642	1642	1724	S35	W61	.885		8.1	42	SF	3	C		23		
HOLL	12	1643	1724	1810	N12	W33	.616		10.2	87	SN	3	C		133		U F
HOLL	12	1652	1705	1721	N16	W24	.548		10.9	29	SF	3	C		34		
HOLL	12	1704	1719	1723	S31	W60	.872		8.2	19	SF	3	C		11		
PALE	12	1713	1726	1750	N11	W28	.549		10.6	37	SF	3	C		84		F
RAMY	12	1716	1724	1735D	N11	W30	.573		10.5	19D	SF	3	C		54		
BIGB	12	1717	1723	1803	N11	W30	.573		10.5	46	SN	2	P	1723	80	1.0	
PALE	12	1838	1839	1859	S35	W62	.891		8.1	21	SF	3	C		11		F
HOLL	12	1854	1855	1909	S31	W61	.879		8.2	15	SF	3	C		12		
HOLL	12	1905	1907	1914	N16	W25	.558		10.9	9	SF	3	C		26		
HOLL	12	1917	1920	1929	N12	W34	.628		10.3	12	SN	3	C		43		
HOLL	12	1926	1928	1932	N 9	E16	.387		14.0	6	SF	3	C		40		
HOLL	12	2142	2143	2157	N16	W28	.590		10.8	15	SF	3	C		38		
HOLL	12	2221	2237	2252	N16	W27	.579		10.9	31	SN	3	C		45		
HOLL	12	2257	2257	2308	S19	W71	.938		7.6	11	SF	3	C		0		
HOLL	12	2311	2314	2334	N 8	E13	.342		13.9	23	SN	3	C		73		
BIGB	12	2317E	2317	2339	N07	E14	.341		14.0	22D	SN	2	P	2317	60	.6	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
ISTA	13	0635E		0725	S31	W67	.918	16267	8.2	500	1N		V				BDG
ISTA	13	0637		0653	N16	W32	.633		10.9	16	SN		V				E
ISTA	13	0657		0710	N16	E07	.410		13.8	13	SF		V				D
ISTA	13	0726		0740	S25	E42	.693		16.5	14	SF		V				D
ISTA	13	0756	0805	0820	N07	E07	.273	16279	13.9	24	1B		V				F
MONT	13	0802	0805	0820	N08	E06	.281		13.8	18	SN		C	0805	110		E
MONT	13	0843	0854	0856	N09	E08	.310		14.0	15	SF		C	0854	50		E
RAMY	13	1305	1306	1310	N26	E30	.697		15.8	5	SF	3	C		24		
RAMY	13	1307	1313	1343	N 7	E 2	.248		13.7	36	SB	3	C		146		FDE
BERN	13	1309	1314	1347	N08	E02	.264	16279	13.7	38	1B		C		175		
BIGB	13	1454	1455	1512	N08	E06	.281		14.1	18	SB	2	C	1455	30	.3	
BIGB	13	1547	1548	1552	S31	W77	.967		7.9	5	SN	2	C	1548	30		
RAMY	13	1605	1605	1609	N29	E29	.716		15.8	4	SF	3	C		20		
HOLL	13	1853	1855	1913	S31	W73	.950		8.3	20	SF	3	C		0		
HOLL	13	1904E	1904U	1944	N 7	W 1	.246		13.7	400	SN	3	C		49		F
HOLL	13	1919	1927	1933	S32	W78	.970		8.0	14	SF	3	C		0		
HOLL	13	1949	1955	2004	N 8	E 0	.262		13.8	15	SN	3	C		35		F
HOLL	13	2009	2010	2016	N 8	W 2	.264		13.7	7	SN	3	C		57		F
HOLL	13	2027	2029	2050	N 9	E 1	.280		13.9	23	SN	3	C		77		
HOLL	13	2058	2139	2213	N 8	W 3	.267		13.6	75	SN	3	C		105		F
HOLL	13	2214	2217	2257	N 8	E 1	.263		14.0	43	SN	3	C		52		
PALE	14	0117	0121	0150D	N 8	W 3	.267		13.8	330	SN	3	C		133		DE
ATHN	14	0616E	0620U	0640	N 6	W 6	.250		13.8	240	SB	2	C		127		DE
ISTA	14	0620E		0642	N08	W08	.295	16279	13.7	220	1F		V				BU
ATHN	14	0735	0742	0758	N28	W74	.983	16273	8.8	23	1B	3	C		159		DE
MONT	14	0739	0741	0746	S29	W90	.998		7.6	7	SF		C	0741	70		
MONT	14	0743	0754	0759	N08	W03	.267		14.1	16	SF		C	0754	50		
ISTA	14	0745		0756	N08	W06	.281	16279	13.9	11	1F		V				U
ATHN	14	0746	0748	0813	N10	W 1	.296		14.2	27	SB	3	C		64		DE
BUCA	14	0755	0806	0915	N07	W08	.280	16279	13.7	80	2B		C	0806	644	6.7	
MONT	14	0759	0808	0906	N08	W06	.281	16279	13.9	67	1N		C	0808	330		
ISTA	14	0800		0840	N08	W08	.295	16279	13.7	40	1N		V				KU
ATHN	14	0802	0808	0905	N 6	W 7	.258	16279	13.8	63	1B	3	C		111		DE
BERN	14	0808E	0808	0935	N08	W09	.303	16279	13.7	870	2B		C		720		
MONT	14	0810	0815	0828	N07	E90	1.000		21.1	18	SN		C	0815	80		
MONT	14	0832	0836	0846	S15	W31	.521		12.0	14	SF		C	0836	50		
RAMY	14	1307	1307	1311	N 9	W 8	.310		13.9	4	SN	3	C		51		
RAMY	14	1419	1423	1453	N 7	W11	.308		13.8	34	SN	3	C		44		
HOLL	14	1420	1422	1434	N 7	W11	.308		13.8	14	SN	3	C		39		F
BIGB	14	1421	1425	1436	N07	W11	.308		13.8	15	SN	2	C	1425	40	.4	
BIGB	14	1445	1449	1459	S26	W90	.998		7.9	14	SN	2	C	1449	30		
RAMY	14	1452	1456	1500	S28	W86	.993		8.2	8	SF	3	C		0		
RAMY	14	1520	1528	1618	S 6	W35	.570		12.0	58	SN	3	C		47		
BIGB	14	1700	1703	1803	N15	W55	.856	16275	10.6	63	1B	1	C	1703	280	5.3	
RAMY	14	1701	1703	1710D	N16	W52	.833	16275	10.8	90	2N	3	C		390		
PALE	14	1710E	1713U	1729	N15	W53	.839		10.7	190	SF	3	C		58		FDE
RAMY	14	1727	1727	1734	N 5	W11	.282		13.9	7	SN	3	C		27		
BIGB	14	1948E	1948	2055	N07	W15	.352		13.7	670	SB	1	P	1948	100	1.1	
BIGB	14	2130	2134	2209	N07	W15	.352		13.8	39	SB	1	C	2134	70	.7	
BIGB	14	2259	2304	2348	N07	W15	.352		13.8	49	SN	2	P	2304	50	.5	
PALE	15	0357E	0401U	0401D	N15	W61	.902		10.6	40	SF	3	C		24		DE
MONT	15	1019	1029	1038D	S15	E56	.823	16295	19.6	190	1N		C	1029	250		
MONT	15	1024	1028	1038D	N06	E90	1.000	16298	22.2	140	1B		C	1028	330		
BIGB	15	1535	1538	1546	S15	E45	.704		19.0	13	SF	3	C	1538	40	.6	G
BIGB	15	1600	1603	1610	N09	W73	.964		10.2	10	SF	3	C	1603	30		G
BIGB	15	1616	1619	1640	N06	W25	.473		13.8	24	SN	3	C	1619	30	.4	
BIGB	15	1830	1838	1845	N08	E90	1.000		22.5	15	SN	3	C	1838	30		
BIGB	15	1840	1841	1852	S16	E41	.657		18.9	12	SN	3	C	1841	30	.4	G
BIGB	15	1844	1846	1854	S13	E27	.457		17.8	10	SN	3	C	1846	40	.5	G
BIGB	15	2219	2222	2230	N00	E90	1.000		22.7	11	SB	3	C	2222	50		
BIGB	16	0108	0109	0114D	N01	E90	1.000		22.8	60	SN	3	P	0109	110		
BIGB	16	0110	0111	0113	N07	E90	1.000		22.8	3	SB	3	C	0111	50		
ATHN	16	0656	0659	0711	N 9	W36	.634		13.6	15	SB	3	C		95		F
ATHN	16	0759	0804	0823	N 3	E85	.997		22.7	24	SB	3	C		37		DE
ATHN	16	0937	0942	1017	N 3	E80	.985	16298	22.4	40	2B	3	C		350		Z F
RAMY	16	1256	1300	1312	N 6	E72	.956		21.9	16	SN	3	C		0		
BIGB	16	1633	1636	1647	N03	E80	.986		22.7	14	SB	2	C	1636	40		
PALE	16	1740	1747	1810D	N 4	E76	.973		22.4	300	SF	3	C		13		DE
BIGB	16	1744	1746	1803	N03	E80	.986		22.7	19	SB	3	P	1746	30		

Hα SOLAR FLARES

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
BIGB	16	1901	1902	1919	N03	E80	.986		22.8	18	SB	3	C	1902	30		
PALE	16	1950	1956	2051	N 7	W41	.685		13.8	61	SB	3	C		79		DE
BIGB	16	1951	1959	2043E	N08	W41	.690		13.8	570	SB	2	P	1959	100	1.4	
PALE	16	2316	2355	2359D	N 4	E76	.980	16298	22.6	430	2N	3	C		520		F
MANI	16	2346E	2350U	0010D	N 6	E71	.951		22.3	240	SF	3	C		50		F
BIGB	16	2347	2352	0054	N03	E75	.968		22.6	67	SN	3	C	2352	290		
ISTA	17	0725		0730D	N06	E69	.940		22.5	50	SN		V				E
BERN	17	0931	0935	0941	N05	E71	.950	16298	22.7	10	2F		C				
BERN	17	1034	1036	1041	N05	E68	.933		22.5	7	SN		C				
BIGB	17	1543	1546	1559	N08	E67	.930		22.7	16	SF	3	C	1546	40		
BIGB	17	1603	1606	1620	N08	E66	.924		22.6	17	SN	3	C	1606	40		
RAMY	17	1605	1605	1612	N 9	E65	.919		22.5	7	SN	3	C		0		
BIGB	17	1639	1643	1701	N08	E66	.924		22.6	22	SB	3	C	1643	50		
RAMY	17	1641	1647	1656	N 8	E65	.917		22.6	15	SN	3	C		25		
PALE	17	1703	1707	1730	N 4	E67	.926		22.7	27	SN	3	C		68		F
BIGB	17	1704	1705	1743	N04	E68	.932		22.8	39	SN	3	C	1705	90		
RAMY	17	1705	1705	1714	N 5	E67	.927		22.7	9	SB	3	C		40		
RAMY	17	1719	1720	1726	N 5	E66	.920		22.7	7	SN	3	C		26		
BIGB	17	1731	1734	1740	N15	E36	.669		20.4	9	SN	3	C	1734	100	1.3	G
BIGB	17	1810	1811	1825	N08	E63	.903		22.5	15	SN	3	C	1811	50	1.1	
PALE	17	1816	1818	1830	N 6	E62	.893	16298	22.4	14	1F	3	C		185		F
BIGB	17	1817	1819	1839	N02	E67	.924		22.8	22	SN	3	C	1819	70		
RAMY	17	1817	1818	1825	N 8	E62	.896		22.4	8	SN	3	C		24		
PALE	17	1905	1905	1907	N 6	E62	.893		22.4	2	SF	3	C		24		F
BIGB	17	1911	1930	2024	N26	E90	1.001		24.5	73	SN	3	C	1930	40		
BIGB	17	2242	2243	2245	N03	E63	.896		22.7	3	SB	2	C	2243	70	1.6	
PALE	17	2316	2355U	0041D	N 4	E78	.980	16298	23.8	950	2N	3	C		520		F
BIGB	18	0022	0025	0035	N07	E61	.887	16298	22.6	13	1B	3	C	0025	100	2.1	
MONT	18	0748	0804	0804D	N08	W62	.896		13.7	160	SN		C	0804	110		E
ATHN	18	0757E	0758U	0844	N 7	W62	.894		13.7	470	SB	2	C		95		DE
ISTA	18	0920E		0932	S20	E90	.999		25.1	120	SF		V				AB
BERN	18	1229	1231	1240	N03	E55	.827	16298	22.6	11	1F		C		150		
RAMY	18	1408	1424	1458	S18	E76	.964		24.3	50	SF	3	C		0		
BIGB	18	1423	1427	1440	S19	E80	.979		24.6	17	SN	2	C	1427	30		A
BERN	18	1432	1438	1508	N02	E56	.835	16298	22.8	36	1N		C		300		
BIGB	18	1433	1440	1515	N05	E52	.802		22.5	42	SB	2	C	1440	240	2.6	
RAMY	18	1435	1437	1503	N 8	E50	.789		22.4	28	SB	3	C		160		FDE
WEND	18	1438E		1514	N02	E54	.816	16298	22.7	360	1N		C	1446	160	2.8	T
HOLL	18	1440E	1440U	1642	N 5	E52	.802	16298	22.5	1220	2B	2	C		435		F
RAMY	18	1441	1441	1529	N 7	W66	.923		13.7	49	SB	3	C		0		
HOLL	18	1443	1449	1542	N 8	W65	.917		13.7	59	SB	2	C		67		F
BIGB	18	1444	1446	1516	S19	E80	.979		24.6	32	SN	3	C	1446	40		A
BIGB	18	1444	1446	1510	N08	W66	.924		13.7	26	SB	3	C	1446	50		
WEND	18	1446E		1520	N09	W65	.919		13.7	340	SN		C	1446	60		B
BIGB	18	1700	1706	1711	N26	E79	.993		24.6	11	SN	3	C	1706	20		
BIGB	18	1734	1739	1817	S18	E03	.196		19.0	43	SN	3	C	1739	140	1.4	G
HOLL	18	1756	1756	1805	N 5	E54	.821		22.8	9	SN	3	C		24		
BIGB	18	1922E	1924	1935	N05	E46	.737		22.3	130	SB	2	P	1924	40	.6	
BIGB	18	1926	1934	2004	N02	E52	.795		22.7	38	SN	2	C	1934	70	1.2	
HOLL	18	2159	2201	2207	N 6	E47	.751		22.4	8	SN	3	C		34		
BIGB	18	2318E	2319	2331	N03	E51	.787		22.8	130	SB	2	P	2319	30	.5	
BIGB	19	0052	0054	0056E	N26	E76	.987		24.7	40	SN	1	P	0054	30		
WEND	19	0647	0710	0725	N06	E41	.681		22.4	38	SF		C	0710	80	1.1	EZ
ISTA	19	0700E		0725	N07	E42	.697		22.4	250	SN		V				E
WEND	19	0707		0817	N02	E42	.681		22.4	70	SF		C	0710	88	1.2	
MONT	19	0708E	0710	0846	N04	E43	.699	16298	22.5	980	1N		C	0710	250		
ISTA	19	0709		0730D	N02	E44	.705		22.6	220	SF		V				E
ATHN	19	0709	0712	0809	N 5	E44	.714	16298	22.6	60	1B	3	C		190		F
ATHN	19	0711	0714	0731	N 5	W73	.960		13.8	20	SB	3	C		64		DE
MONT	19	0713	0716	0720	N06	W76	.974		13.6	7	SF		C	0716	50		
RAMY	19	1219	1219	1221D	N 6	E39	.657		22.4	20	SB	3	C		36		
HOLL	19	1353E	1358	1423	N 8	W75	.971	16279	14.0	300	1B	3	C		0		FDE
HOLL	19	1407	1420	1524	N 4	E39	.649		22.5	77	SB	3	C		93		DE
BIGB	19	1407E	1408	1422	N08	W75	.971	16279	14.0	150	1B	2	P	1408	390		A
BIGB	19	1449	1451	1502	S14	E02	.125		19.8	13	SN	2	C	1451	60	.6	G
HOLL	19	1542	1603	1632	N 5	E36	.614		22.4	50	SB	3	C		30		DE
BIGB	19	1602	1603	1622	N07	E36	.623		22.4	20	SB	2	C	1603	10	.1	
HOLL	19	1709	2050	2158	N 5	E36	.614	16298	22.4	289	1B	3	C		336		U F
PALE	19	1740	1744	1806	N 6	E36	.619		22.4	26	SB	3	C		74		FDE

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	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
BIGB	19	1742	1746	1816	N04	E39	.649		22.7	34	SB	3	C	1746	100	1.3	
PALE	19	1828	1844	1903	N 6	E36	.619		22.5	35	SF	3	C		66		U F
BIGB	19	1831	1835	1908D	N05	E35	.601		22.4	37D	SN	3	P	1835	160	2.0	
PALE	19	1916	1954	2022	N 5	E37	.627		22.6	66	SN	3	C		114		FDE
BIGB	19	1918	1924	2015	N05	E35	.601		22.4	57	SN	2	P	1924	120	1.5	
HOLL	19	2009	2012	2040	S25	W41	.683		16.8	31	SN	3	C		60		
PALE	19	2025	2027	2030	N 4	E37	.623		22.6	5	SF	3	C		28		FDE
PALE	19	2031	2046	2047	N 5	E34	.588	16298	22.4	16	1N	3	C		249		FDE
BIGB	19	2039	2052	2129D	N05	E37	.627	16298	22.6	50D	1B	2	P	2052	210	2.7	
PALE	19	2206	2218U	2240	N 9	E36	.634		22.6	34	SF	3	C		68		
HOLL	19	2247	2256	2307	S20	E60	.861		24.4	20	SN	3	C		31		
HOLL	19	2256	2303	0025D	N 6	E33	.580	16298	22.4	89D	3B	3	C		1203		UDE
PALE	19	2304E	2307	0010D	N 6	E32	.566	16298	22.4	66D	3B	3	C		1301		F
BIGB	19	2317E	2319	0023	N04	E34	.583	16298	22.5	66D	2B	2	P	2319	580	7.2	
HOLL	19	2319	2338	2346	N28	E60	.925		24.5	27	SN	3	C		19		
HOLL	19	2341	2359	0024	S20	E60	.861		24.5	43	SB	3	C		55		
BIGB	19	2357	2358	2359D	S19	E64	.892		24.8	2D	SB	2	P	2358	20	.5	
ATHN	20	0559E	0800U	0810	N 4	E25	.458		22.1	131D	SB	3	C		159		DE
BUCA	20	0720		0721	S23	W48	.752		16.7	1	SN		C	0720	43	.8	D
BUCA	20	0759	0803	0811	N06	E25	.472	16298	22.2	12	1N		C	0803	322	3.6	
ATHN	20	0759E	0800U	0810	N 4	E25	.458		22.2	11D	SB	3	C		159		DE
MONT	20	0759	0803	0824	N05	E25	.465	16298	22.2	25	1N		C	0803	250		
MONT	20	0839	0855	0944	N05	E25	.465		22.2	65	SN		C	0855	110		EFZ
RAMY	20	1200E	1257	1358	S14	E53	.793		24.5	118D	SN	3	C		130		
RAMY	20	1200E	1249	1357	N28	E61	.930		25.1	117D	SF	3	C		44		
RAMY	20	1317	1342	1419	N 6	E25	.472		22.4	62	SB	3	C		173		F
HOLL	20	1340E	1342U	1412	N 5	E24	.451		22.4	32D	SB	3	C		104		DE
RAMY	20	1428	1458	1511	N 6	E24	.458		22.4	43	SN	3	C		35		
HOLL	20	1459	1502	1514	N 6	E24	.458		22.4	15	SB	3	C		24		DE
HOLL	20	1517	1536	1604	N 6	E24	.458		22.4	47	SN	3	C		39		F
RAMY	20	1520	1535	1555	N 6	E24	.458		22.4	35	SN	3	C		38		
BIGB	20	1534	1540	1611	N05	E25	.465		22.5	37	SF	2	C	1540	50	.6	
HOLL	20	1633	1633	1644	N28	E53	.883		24.7	11	SF	3	C		16		
HOLL	20	1634	1639	1702	N 6	E23	.445		22.4	28	SB	3	C		36		DE
BIGB	20	1636	1641	1738	N05	E25	.465		22.6	62	SN	2	C	1641	50	.6	
BIGB	20	1751	1801	1824	N13	W90	1.000		14.0	33	SN	2	C	1801	30		
BIGB	20	1819	1834	1837	N05	E25	.465		22.6	18	SN	2	C	1834	50	.6	
PALE	20	1821	1859	1900D	N 5	E22	.423	16298	22.4	39D	1N	3	C		246		
PALE	20	1821	1906	1907D	N 5	E22	.423	16298	22.4	46D	1B	3	C		346		FDE
HOLL	20	1827	1904	1948	N 7	E21	.426	16298	22.3	81	1B	3	C		198		UDE
BIGB	20	1856	1859	2007	N05	E23	.437	16298	22.5	71	1B	2	C	1859	210	2.4	
RAMY	20	1937E	1941U	1959D	N 6	E21	.418		22.4	22D	SN	3	C		65		
HOLL	20	2051	2107	2123	N 6	E21	.418		22.4	32	SN	3	C		42		
BIGB	20	2214	2240	2252	N27	W64	.943		16.1	38	SF	2	C	2240	60	1.4	G
BIGB	20	2255	2305	0006	N04	E21	.402		22.5	71	SN	2	C	2305	60	.7	
HOLL	20	2257	2318	2357	N 6	E19	.391		22.4	60	SB	3	C		77		DE
HOLL	20	2341	2359	0001D	S20	E60	.861		25.5	20D	SB	3	C		55		
RAMY	21	1457	1509	1533	N 2	E15	.300		22.7	36	SB	3	C		80		F
RAMY	21	1520	1532	1556	S 9	E 3	.062		21.9	36	SF	3	C		49		
HOLL	21	1535	1535	1602	S 9	E 2	.049		21.8	27	SF	3	C		44		
RAMY	21	1544	1546	1608	N 3	E11	.257		22.5	24	SB	3	C		115		
BIGB	21	1544	1550	1559	N03	E11	.257		22.5	15	SN	2	C	1550	50	.5	
BIGB	21	1618	1652	1830	S24	E41	.679		24.8	132	SF	2	C	1652	80	1.1	
BIGB	21	1633	1647	1716	N15	E80	.991		27.7	43	SN	2	C	1647	50		
HOLL	21	1633	1637	1641	N16	E76	.980		27.4	8	SF	3	C		0		
BIGB	21	1714	1718	1732	N06	E08	.263		22.3	18	SF	2	C	1718	20	.2	
BIGB	21	1719	1735	1811	S09	E02	.049		21.9	52	SF	2	C	1735	20	.2	
BIGB	21	1724	1736	1758	N14	E80	.990		27.7	34	SN	2	C	1736	10		
RAMY	21	1736	1736	1746	S18	E36	.598		24.4	10	SF	3	C		21		
BIGB	21	1809	1811	1818	N09	E17	.396		23.0	9	SN	2	C	1811	20	.2	
HOLL	21	1835	1836	1849	N16	E77	.983		27.5	14	SF	3	C		0		
RAMY	21	1845	1846	1851	N 6	E 9	.273		22.5	6	SN	3	C		28		
BIGB	21	1911	1912	1916	N17	E78	.987		27.6	5	SN	2	C	1912	30		
BIGB	21	2006	2007	2015	N09	E09	.315		22.5	9	SN	2	C	2007	30	.3	
PALE	21	2007	2021	2029	N 5	E 7	.240		22.4	22	SF	2	C		34		F
BIGB	21	2010	2011	2020	N04	E08	.235		22.4	10	SN	2	C	2011	30	.3	
BIGB	21	2015	2017	2033	N08	E08	.292		22.4	18	SF	2	C	2017	30	.3	
BIGB	21	2050	2052	2124	N15	E80	.991		27.9	34	SN	2	C	2052	40		
RAMY	21	2110	2111	2124	N 6	E 8	.263		22.5	14	SB	3	C		137		FDE
BIGB	21	2110	2112	2130	N07	E07	.270		22.4	20	SN	2	C	2112	80	.8	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PALE	21	2113E	2113U	2130	N 5	E 7	.240		22.4	17D	SN	2	C		84		F
BIGB	21	2120	2124	2143	N25	E36	.737		24.6	23	SN	2	C	2124	50	.6	
RAMY	21	2121	2127	2141	N27	E34	.735		24.4	20	SF	3	C		34		
BIGB	21	2348	2356	0031	N06	E05	.241		22.4	51	SB	2	C	2356	120	1.2	
MANI	21	2344E	2357	0010D	N06	E05	.241	16298	22.4	26D	1N				450	4.6	
PALE	21	2356E	2356U	0027D	N 6	E 6	.248	16298	22.4	31D	1B	3	C		473		F H
BIGB	22	0106	0108	0125E	N06	E04	.235		22.3	19D	SN	1	P	0108	60	.6	
MANI	22	0110E	0112	0131D	N 6	E 4	.235	16298	22.3	21D	1N	2	C		250		FDE
BIGB	22	0123E	0126	0155	N07	W05	.256		21.7	32D	SN	1	P	0127	30	.3	
PALE	22	0151	0238U	0245D	N 6	E 4	.235	16298	22.4	54D	1B	3	C		321		FDE
MANI	22	0238E	0240U	0244D	N 6	E 4	.235	16298	22.4	6D	1N	2	C		300		FDE
MANI	22	0822E	0822U	0827D	N 6	E 1	.225		22.4	5D	SN	3	C		150		
HOLL	22	1500	1502	1517	N 6	W 3	.231		22.4	17	SN	3	C		54		
BIGB	22	1503	1506	1517	N07	W06	.262		22.2	14	SN	1	C	1506	30	.3	
BIGB	22	1609	1622	1637	N03	W02	.177		22.5	28	SF	1	C		100	1.0	
BIGB	22	1725	1729	1800	N03	W02	.177		22.6	35	SN	2	C		200	2.0	K
BIGB	22	1728	1731	1738	N07	W04	.251		22.4	10	SF	2	C	1731	30	.3	
BIGB	22	1729	1744	1813	N07	W06	.262		22.3	44	SN	2	C	1744	50	.5	
BIGB	22	1740	1743	1755	N06	W04	.235		22.4	15	SN	2	C		31	.3	
HOLL	22	1742	1743	1753	N 6	W 4	.235		22.4	11	SB	3	C		49		F
HOLL	22	1803	1803	1809	S12	E35	.572		25.4	6	SF	3	C		24		
BIGB	22	1922	1923	1930	N39	E08	.726		23.4	8	SN	2	C		54	.6	
HOLL	22	1923	1925	1931	S14	E38	.615		25.7	8	SN	3	C		30		
BIGB	22	1923	1924	1933	S16	E38	.619		25.7	10	SN	2	C	1924	20	.3	
BIGB	22	2005	2011	2021	N06	W04	.235		22.5	16	SF	2	C		27	.3	
PALE	22	2005	2011	2020	N 5	W 5	.225		22.5	15	SF	3	C		20		DE
BIGB	22	2130	2138	2155	S13	W45	.703		19.5	25	SN	2	C		75	1.0	U
BIGB	22	2140	2143	2211	S15	W45	.705		19.5	31	SF	2	C	2143	50	.7	
BIGB	22	2158E	2202	2222	N08	W05	.272		22.5	24D	SN	2	C		30	.3	D
BIGB	22	2159	2204	2227	N02	W02	.160		22.8	28	SN	2	C	2204	30	.3	
PALE	22	2356	2356	0000D	N 6	E 6	.247	16298	23.4	4D	1B	3	C		473		FDE
BIGB	23	0002	0006	0019D	S03	W10	.186		22.3	17D	SN	2	C		25	.3	D
PALE	23	0134	0134	0147D	N 5	W 7	.239		22.5	13D	SN	3	C		53		F
MANI	23	0202E	0206U	0212D	N 5	W 7	.239		22.6	10D	SF	2	C		120		F
ATHN	23	0618	0623	0643	N 8	W11	.318		22.4	25	SB	3	C		143		U F
ATHN	23	0830	0832	0849	N 7	W13	.326		22.4	19	SB	3	C		95		DE
ATHN	23	1023	1025	1035	N 7	W14	.338		22.4	12	SB	3	C		64		DE
HOLL	23	1402	1412	1433	S16	E27	.468		25.6	31	SF	3	C		29		
BIGB	23	1623	1633	1647	S12	E05	.123		24.1	24	SB	1	C	1633	160	1.7	
HOLL	23	1630	1639	1648	S12	E 4	.112	16305	24.0	18	1B	3	C		294		ZDE
BIGB	23	1639	1646	1728	N08	W18	.396		22.3	49	SN	2	C	1646	40	.4	
HOLL	23	1641	1647	1658	N 6	W17	.364		22.4	17	SN	3	C		52		
BIGB	23	1648	1649	1702	N21	W17	.538		22.4	14	SN	2	C	1649	40	.4	
HOLL	23	1748	1748	1804	N21	W17	.538		22.5	16	SF	3	C		34		
PALE	23	1755	1755	1758	N18	E74	.975		29.3	3	SF	3	C		14		F
HOLL	23	1946	2001	2032	S14	E23	.401		25.5	46	SF	3	C		28		F
BIGB	23	2041	2048	2135	N08	W18	.396		22.5	54	SF	2	C	2048	40	.4	
HOLL	23	2051	2054	2059	S13	E22	.382		25.5	8	SF	3	C		22		
HOLL	23	2231	2246	2311	N 8	W22	.447		22.3	40	SB	3	C		123		U F
HOLL	23	2239	2244	2256	N13	W48	.765		20.3	17	SF	3	C		17		
PALE	23	2241	2251	2306	N 6	W21	.417		22.4	25	SN	3	C		109		U F
BIGB	23	2241	2248	2307	N08	W21	.434		22.4	26	SN	3	C	2248	50	.6	
PALE	24	0131E	0131U	0210	N 5	W20	.395		22.6	39D	SF	3	C		62		DE
HOLL	24	1406	1413	1451	N13	W57	.866		20.3	45	SN	2	C		109		F
RAMY	24	1410	1413	1436	N12	W57	.864		20.3	26	SN	3	C		90		
HOLL	24	1454	1515	1527	N13	W58	.874		20.3	33	SF	3	C		33		
HOLL	24	1545	1548	1556	S24	E50	.775		28.4	11	SF	3	C		24		
RAMY	24	1617	1619	1625	N 6	W30	.539		22.4	8	SF	3	C		23		
PALE	24	1743	1750U	1814D	N 5	W30	.533		22.5	31D	SN	3	C		107		F
HOLL	24	1744	1750	1812	N 6	W32	.566		22.3	28	SB	3	C		65		U F
RAMY	24	1745	1750	1813	N 7	W33	.584		22.3	28	SB	3	C		110		F
PALE	24	1750	1800U	1803	N13	W59	.882		20.3	13	SF	3	C		31		F
RAMY	24	1853	1854	1901D	N 6	W31	.552		22.5	8D	SF	3	C		26		
HOLL	24	2036	2038	2042	N22	W31	.668		22.5	6	SF	3	C		42		
HOLL	24	2038	2052	2058	S20	E67	.914		29.9	20	SF	3	C		15		
HOLL	24	2149	2150	2202	N17	E62	.912		29.6	13	SF	3	C		19		
HOLL	24	2310	2351	0011	N 7	W36	.623		22.3	61	SF	3	C		48		
HOLL	25	0013	0024	0033D	N 1	W32	.543		22.6	20D	SN	2	C		52		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
MANI	25	0328E	0329	0345D	N20	E34	.681		27.7	17D	SN	3	C		80		
ATHN	25	0822	0825	0844	N21	W39	.736		22.4	22	SB	2	C		127		DE
ATHN	25	1016	1020	1038	N18	E29	.615		27.6	22	SB	2	C		143		F
RAMY	25	1143E	1143U	1147D	N21	W40	.745		22.5	4D	SF	2	C		117		
RAMY	25	1143E	1143U	1147D	N18	E56	.871		29.7	4D	SN	2	C		142		F
RAMY	25	1338	1342	1350	N 6	W42	.693		22.4	12	SF	3	C		50		
HOLL	25	1406	1414	1417	N22	W42	.769		22.4	11	SF	3	C		18		
HOLL	25	1509	1522	1537	N24	E47	.822		29.2	28	SF	3	C		32		
HOLL	25	1512	1513	1519	N21	E26	.613		27.6	7	SF	3	C		23		
BIGB	25	1811	1812	1835	N15	W50	.811		22.0	24	SN	2	C	1812	90	1.4	
HOLL	25	1925	1928	1956	N20	E49	.821		29.5	31	SN	3	C		94		
HOLL	25	1925	1931	1946	N19	E21	.547		27.4	21	SN	3	C		70		
BIGB	25	1926	1927	1935D	N18	E50	.822		29.6	9D	SN	2	P	1927	40	.6	
BIGB	25	1929	1931	1935D	N20	E25	.594		27.7	6D	SF	2	P	1931	40	.5	
BIGB	25	1955	1956	2007	N22	E86	1.000		1.3	12	SB	2	C	1956	70		A
HOLL	25	2004	2009	2016	N23	E87	1.000		1.4	12	SF	3	C		0		
BIGB	25	2036	2043	2109	N05	W53	.811		21.9	33	SB	2	C	2043	140	2.4	
HOLL	25	2036	2042	2107	N 5	W52	.801	16298	22.0	31	1B	3	C		228		U F
HOLL	25	2036	2038	2040D	N 6	W45	.728		22.5	4D	SB	3	C		148		U F
HOLL	25	2037	2043	2100	N14	W74	.972		20.3	23	SN	3	C		53		
BIGB	25	2122	2124	2129	N22	E88	1.000		1.5	7	SN	2	C	2124	20		
HOLL	25	2129	2134	2152	N21	E47	.808		29.4	23	SB	3	C		75		
BIGB	25	2130	2137	2147	N19	E48	.808		29.5	17	SN	2	C	2137	40	.6	
BIGB	26	0003	0006	0024	N14	E51	.816		29.8	21	SF	2	C	0006	50	.8	
BIGB	26	0004	0005	0028	S22	E56	.829		30.2	24	SF	2	C	0005	20	.4	
PALE	26	0015E	0015U	0035D	N17	E52	.835		29.9	20D	SF	2	C		20		F
PALE	26	0212	0213	0222	N 4	W52	.799		22.2	1D	SF	2	C		20		DE
ISTA	26	0716E	0725	0736	N16	E17	.475		27.6	20D	SN		V				D
ISTA	26	0716E		0751	S21	E50	.770		30.1	35D	SN		V				K
ISTA	26	0728		0743	N16	E45	.767		29.7	15	SF		V				DK
ISTA	26	0802	0806	0821	N16	E17	.475		27.6	19	SN		V				D
ISTA	26	0843		0849	S11	W14	.249		25.3	6	SN		V				E
ISTA	26	0846	0850	0908	N12	E09	.356	16315	27.0	22	1B		V				F
RAMY	26	1245	1259	1402	S25	E45	.727		29.9	77	SN	3	C		130		
HOLL	26	1322E	1324U	1349	S19	E47	.734		30.1	27D	SN	2	C		60		
HOLL	26	1547	1548	1554	N 6	W56	.842		22.5	7	SN	3	C		24		
BIGB	26	1547	1548	1552	N06	W58	.860		22.3	5	SN	2	C	1548	40	.8	
BIGB	26	1635	1638	1646	N19	W58	.889		22.3	11	SN	2	C	1638	20	.4	
RAMY	26	1636	1636	1645	N19	W56	.874		22.5	9	SF	3	C		16		
BIGB	26	1855	1858	1917	N23	E73	.975		1.3	22	SN	2	C	1858	30		
HOLL	26	1856	1859	1916	N24	E71	.969		1.1	20	SF	3	C		29		
PALE	26	1857	1858	1905	N23	E72	.972		1.2	8	SF	3	C		17		
BIGB	26	1902	1903	1907	N16	E06	.400		27.2	5	SN	2	C	1903	30	.3	
BIGB	26	1936	1942	1954	N06	W58	.860		22.5	18	SN	2	C	1942	40	.3	
BIGB	26	2014	2016	2036	N29	W26	.691		24.9	22	SN	2	C	2016	30	.3	
HOLL	26	2014	2014	2025	N28	W26	.681		24.9	11	SF	3	C		23		F
BIGB	26	2020	2021	2029	N17	W15	.471		25.7	9	SN	2	C	2021	30	.3	
HOLL	26	2057	2105	2256	N 1	W57	.843	16298	22.6	119	1N	3	C		268		U U
BIGB	26	2058	2117	2201D	N05	W62	.891	16298	22.2	63D	1B	2	P	2117	120	2.6	
PALE	26	2103E	2120	2206	N 3	W58	.855	16298	22.5	63D	1N	3	C		193		U F
PALE	26	2125	2127	2136	S21	E41	.670		30.0	11	SF	3	C		34		DE
HOLL	26	2323	2325	2334	S21	E42	.682		30.1	11	SF	3	C		38		
HOLL	26	2343	2345	2358	S24	E21	.446		28.6	15	SF	3	C		43		
PALE	27	0218	0221	0252	N 6	W64	.907		22.3	34	SN	3	C		53		F
MANI	27	0224E	0224U	0235	N 6	W66	.921		22.2	11D	SF	3	C		25		
PALE	27	0303	0313	0317D	N21	E20	.560		28.6	14D	SF	3	C		33		F
MONT	27	0715	0722	0742	S28	E90	.998	16334	3.1	27	1N		C	0722	180		
RAMY	27	1215	1217	1227	S12	W12	.224		26.6	12	SN	3	C		29		
RAMY	27	1235	1238	1254	S20	E31	.542		29.8	19	SF	3	C		35		
RAMY	27	1448	1502	1524	S13	W14	.261		26.6	36	SF	3	C		52		
HOLL	27	1501	1504	1510	S13	W14	.261		26.6	9	SF	3	C		21		
BIGB	27	1531	1539	1602	N06	W75	.970		22.0	31	SF	2	C	1539	50		
RAMY	27	1705	1718	1735	N20	W 3	.453		27.5	30	SN	3	C		47		F
BIGB	27	1707	1709	1715	N21	W01	.467		27.6	8	SF	2	C	1709	50	.5	
BIGB	27	1726	1727	1731	N15	W07	.389		27.2	5	SF	2	C	1727	30	.3	
HOLL	27	1730	1736	1741	N17	W 5	.412		27.4	11	SF	3	C		28		F
HOLL	27	1901	1909	2001	N23	W 4	.501		27.5	60	SN	3	C		138		
RAMY	27	1908	1909	2001	N20	W 3	.453		27.6	53	SB	3	C		91		FDE
BIGB	27	1908	1909	1941	N21	W02	.467		27.6	33	SN	2	C	1909	60	.6	
PALE	27	1912	1915	1945	N22	W 2	.483		27.7	33	SF	3	C		116		F

Hα SOLAR FLARES

SEPTEMBER 1979

OBSERV-ATORY	OBSERVED UT				LOCATION				CMP. DAY	DURA-TION MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION				COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
BIGB	27	1928	1929	1939	N14	W01	.355		27.7	11	SF	2	C	1929	30	.3	
HOLL	27	2008	2023	2038	N17	E24	.553		29.6	30	SF	3	C		36		
PALE	27	2017	2017	2023	N22	W 3	.484		27.6	6	SF	3	C		43		F
HOLL	27	2115	2130	2143	N17	E23	.543		29.6	28	SF	3	C		25		
PALE	27	2128	2144	2220D	N20	W 4	.455		27.6	52D	SN	3	C		107		F
BIGB	27	2142	2145	2200	N21	W03	.469		27.7	18	SN	2	C	2145	50	.5	
HOLL	27	2143E	2144	2257	N23	W 6	.506		27.5	74D	SB	3	C		134		DE
PALE	27	2302	2306	2335	N21	W 5	.473		27.6	33	SF	2	C		59		F
HOLL	27	2308	2312	2320	N23	E22	.598		29.6	12	SF	3	C		24		
PALE	27	2344	2404	0020D	S21	E27	.496		30.0	36D	SF	2	C		30		F
HOLL	27	2351E	2356	0022D	S21	E28	.509		30.1	31D	SN	2	C		96		U
HOLL	28	0008	0014	0022D	N26	W44	.807		24.7	14D	SF	2	C		77		F
ISTA	28	0758		0809	N17	E03	.406		28.6	11	SF		V				D
RAMY	28	1303	1346	1359	N17	W16	.478		27.3	56	SN	3	C		61		
HOLL	28	1341	1350	1354	N17	W16	.478		27.4	13	SF	3	C		28		
HOLL	28	1350	1351	1411	N15	W 1	.371		28.5	21	SF	3	C		25		
HOLL	28	1357	1404	1434	N18	W16	.490		27.4	37	SF	3	C		38		
HOLL	28	1421	1424	1437	N 4	W79	.984		22.7	16	SF	3	C		0		
HOLL	28	1520	1533	1552	S21	E20	.407		30.1	32	SF	3	C		36		
RAMY	28	1846	1847	1912	N17	E13	.454		29.8	26	SN	3	C		136		
HOLL	28	1846	1848	1912	N20	E13	.495		29.8	26	SB	3	C		167		
PALE	28	1847E	1847U	1917	S18	W16	.329		27.6	30D	SN	3	C		134		F
HOLL	28	2006	2010	2021	N24	W18	.579		27.5	15	SN	3	C		34		
HOLL	28	2157E	2157U	2222	N20	E 8	.468		29.5	25D	SN	3	C		197		
HOLL	28	2200	2203	2220	N19	W22	.554		27.3	20	SN	3	C		28		F
HOLL	28	2240	2245	2252	N 2	W86	.998		22.5	12	SF	3	C		0		
HOLL	28	2252	2256	2303D	N18	E 8	.438	16325	29.6	11D	1B	3	C		217		DE
ISTA	29	0640E		0700	N17	W24	.552	16315	27.5	20D	1N		V				BD
ISTA	29	0646	0649	0703	N19	E07	.448	16315	29.8	17	1B		V				E
ISTA	29	0728		0845	N08	W90	1.000		22.6	77	SF		V				AD
HOLL	29	1646	1648	1712	N17	W30	.615		27.4	26	SF	3	C		60		
HOLL	29	1831	1837	1910	N17	W31	.626		27.4	39	SN	3	C		69		
PALE	29	1832	1837	1839D	N14	W31	.603		27.4	7D	SF	2	C		35		F
HOLL	29	1839	1858	1913	N14	E68	.943		3.9	34	SF	3	C		0		
MANI	30	0045E	0045U	0050D	N17	W33	.647		27.6	5D	SN	3	C		50		F
ATHN	30	0614	0616	0647	N18	W38	.706		27.4	33	SB	3	C		48		DE
ISTA	30	0627E		0725	N15	E54	.846	16337	3.3	58D	2N		V				BKU
ISTA	30	0627E		0705	N20	W37	.708	16329	27.5	38D	3B		V				BF
ISTA	30	0732	0738	0745	N13	W22	.491		28.7	13	SF		V				E
ISTA	30	0735		0845D	N21	W41	.753		27.2	70D	SF		V				DK
ISTA	30	0826	0830	0844	S23	W01	.282		30.3	18	SN		V				D
RAMY	30	1135E	1140U	1157D	S27	W86	.993		24.0	22D	SN	3	C		0		
RAMY	30	1135E	1139	1154	N16	W40	.715		27.5	19D	SN	3	C		30		F
RAMY	30	1139	1143	1159	N15	W26	.554		28.5	20	SN	3	C		38		
RAMY	30	1149	1206	1311	N13	W12	.391		29.6	82	SN	3	C		107		
RAMY	30	1251	1253	1302	S25	W 4	.321		30.2	11	SF	3	C		35		
RAMY	30	1433	1447	1500	N14	E73	.967		5.1	27	SF	3	C		0		
HOLL	30	1510	1511	1543	N24	W44	.796		27.3	33	SN	2	C		44		
HOLL	30	1511	1525	1537	N19	W42	.751		27.5	26	SN	2	C		47		
HOLL	30	1611	1614	1620	N20	W18	.530		29.3	9	SN	3	C		60		F
RAMY	30	1612	1613	1621	N17	W17	.485		29.4	9	SN	3	C		40		
HOLL	30	1620	1622	1630	S20	W 6	.251		30.2	10	SF	3	C		34		
HOLL	30	1804	1811	1818	N17	E50	.817		3.5	14	SF	3	C		21		
HOLL	30	1810	1811	1820	S24	E39	.659		2.7	10	SN	3	C		30		
HOLL	30	1837	1840	1855	N22	W47	.811		27.3	18	SN	3	C		82		F
BIGB	30	1839	1840	1900	N21	W48	.815		27.2	21	SN	2	C	1840	30	.5	
PALE	30	1856E	1904	1907	N18	W46	.784		27.3	11D	SF	3	C		46		FDE
HOLL	30	1916	1918	1924	N17	E49	.808		3.5	8	SF	3	C		27		
PALE	30	2008E	2009U	2011	S13	W59	.851		26.4	3D	SF	3	C		29		F
HOLL	30	2212	2220	2302	S21	W31	.548		28.6	5D	SF	2	C		27		
PALE	30	2224E	2226	2232	N16	E71	.960		5.3	8D	SF	3	C		27		DE
PALE	30	2227	2233	2236	S27	W29	.563		28.8	9	SF	3	C		26		DE
HOLL	30	2336	2339	2341D	N24	W41	.770		27.9	5D	SB	2	C		36		F

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1979

Problems with a new computer graphics package prevented chart from being generated in time for publication.

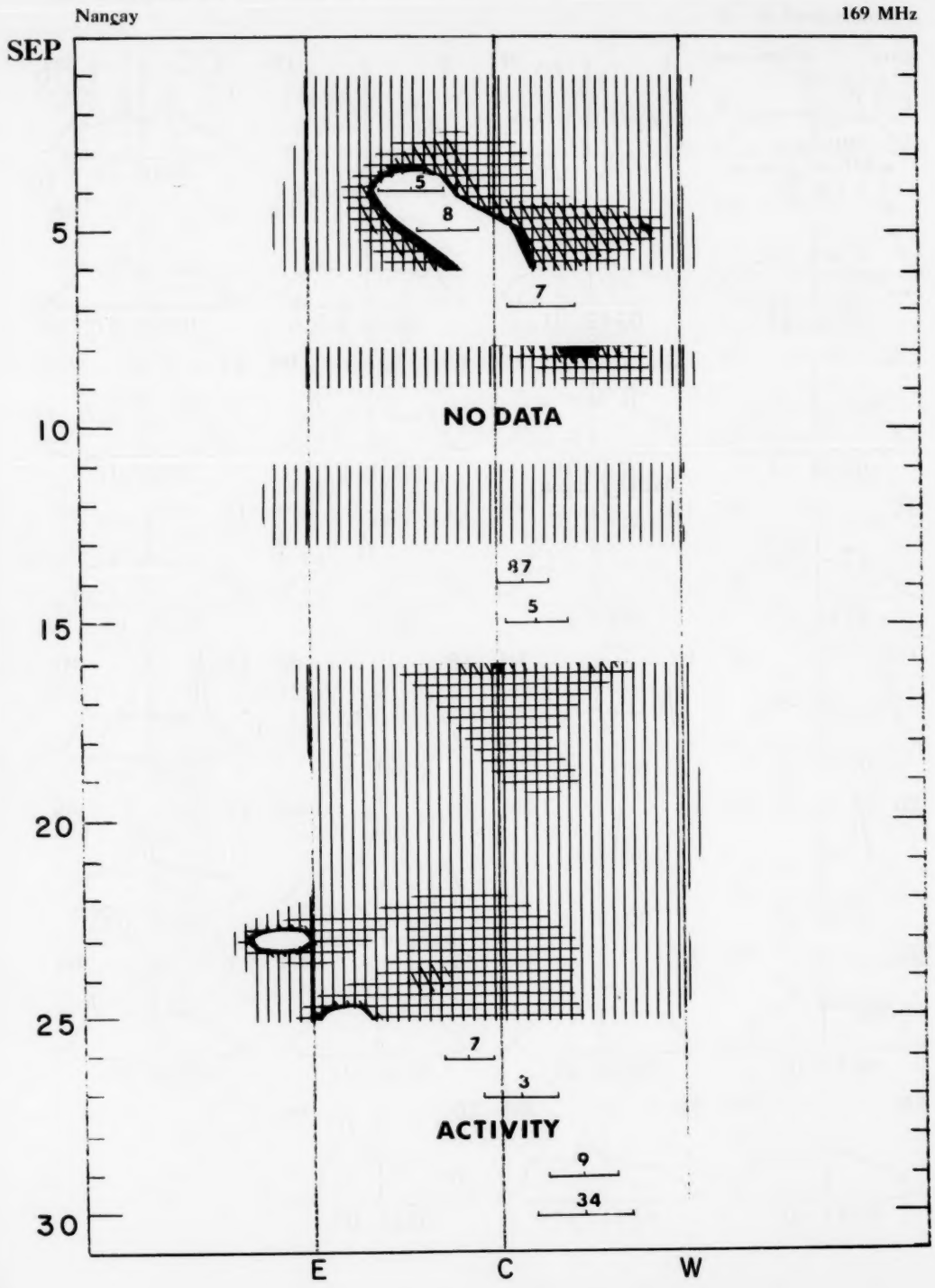
Observatories included in total patrol:

Athenes	Bucharest	Kodaikanal	Palehua	Wendelstein
Berne	Holloman	Manila	Ramey	
Big Bear	Istanboul	Monte Mario	Upice	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

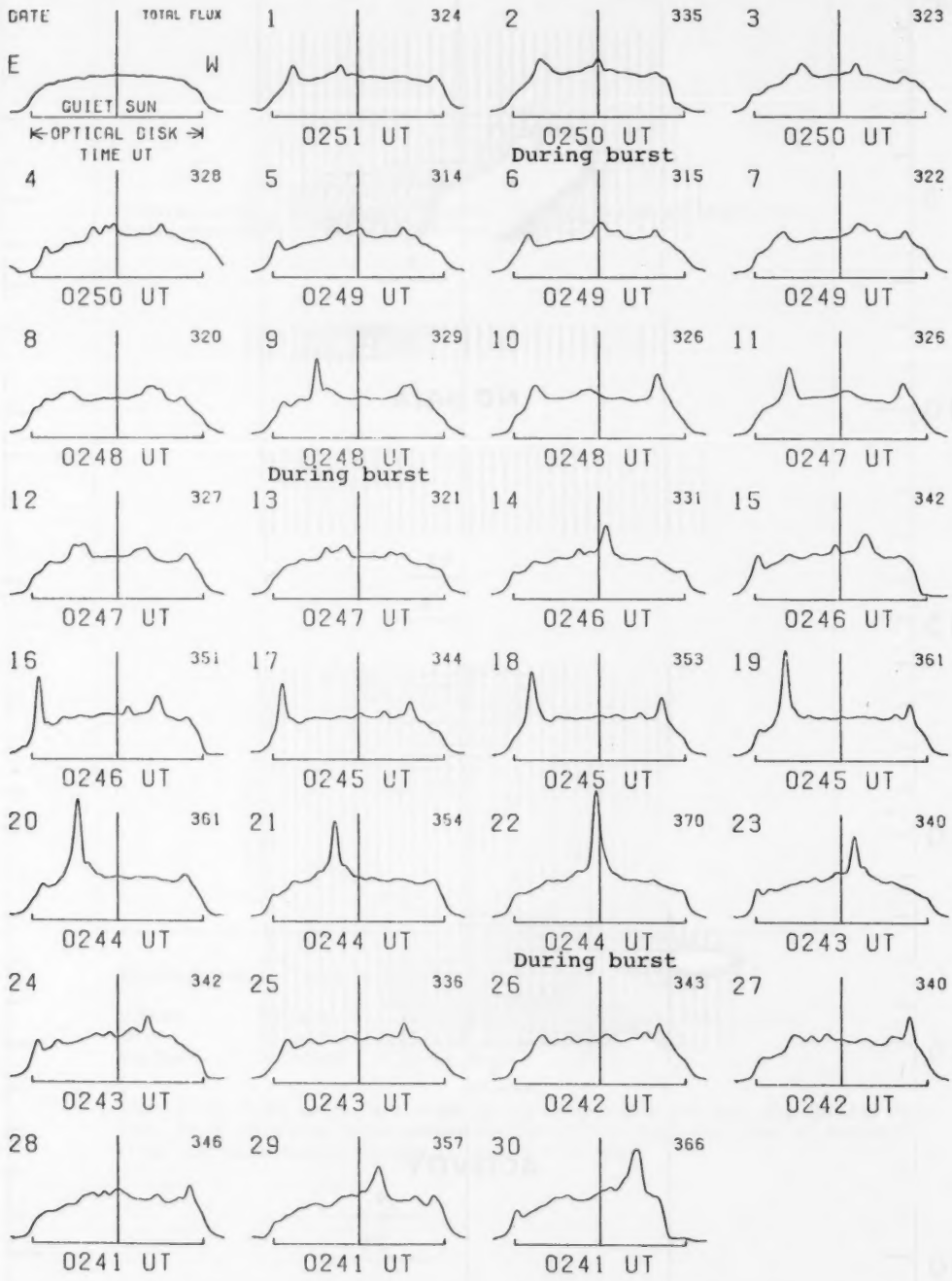
SEPTEMBER 1979



EAST-WEST SOLAR SCANS
SEPTEMBER 1979

TOYOKAWA, JAPAN

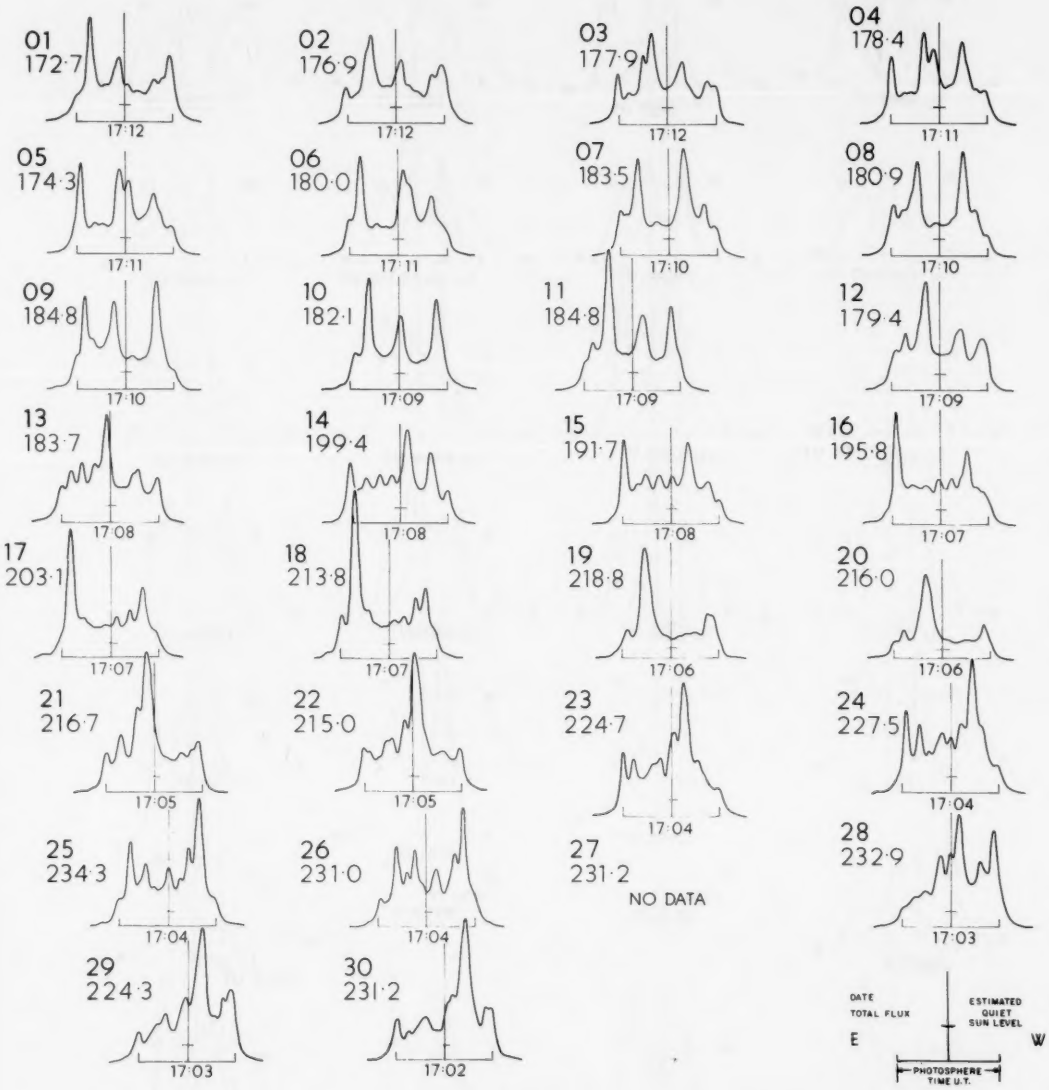
3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST-WEST SOLAR SCANS
SEPTEMBER 1979

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



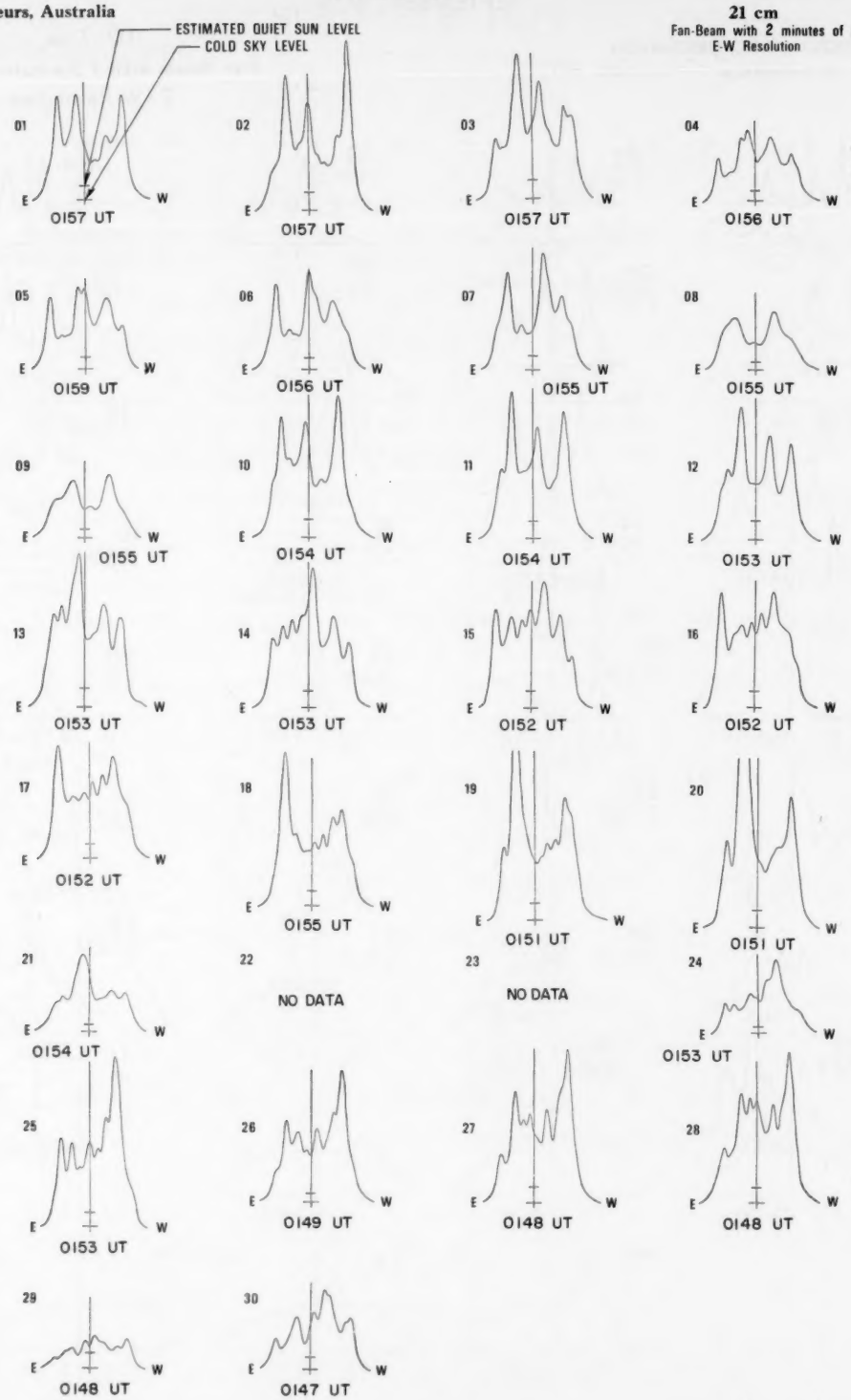
28
Sep 79

EAST-WEST SOLAR SCANS

SEPTEMBER 1979

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

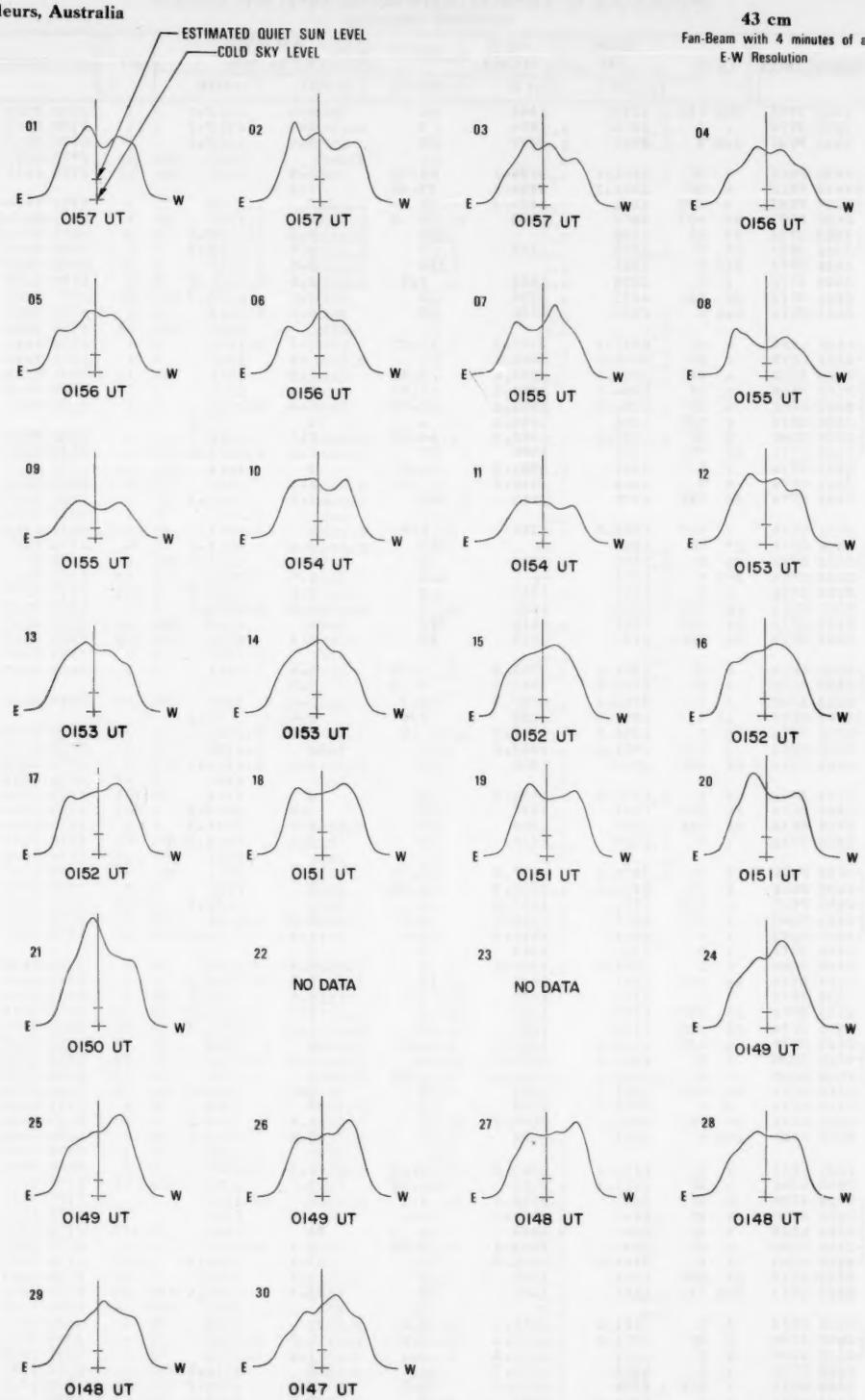


EAST-WEST SOLAR SCANS

SEPTEMBER 1979

Fleurs, Australia

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
1	2800	OTTA	260 FAL	1800	1840	40	4.4	2.2		
	2800	OTTA	1 S	1851	1854	9	9.4	3.2		
	2695	PENT	240 R	2315	2335	20	6.4	3.2		
2	2695	PALE	4 SF	0021.1	0034.1	25.9D	13.9			
	8800	PALE	4 SF	0021.1	0034.1	25.9D	7.3			
	2695	PENT	4 S/F	0021	0034.3	32	143	49		
	2695	PENT	29 PBI	0053	0053	40 D	10.2			
	2800	OTTA	27 RF	1258		185	2.6	2.4		
	2800	OTTA	24 R	1258	1305	15	2.6	1.3		
	2800	OTTA	24P R	1305		150	2.6			
	2800	OTTA	1 S	1529	1530	2.5	1.6	.8		
	2800	OTTA	26 FAL	1535	1555	20	-2.6	-1.3		
	2800	OTTA	240 R	2000	2020	20	3.4	2		
3	2695	LEAR	4 SF	0437.8	0443.8	11.2D	1.3			
	8800	LEAR	4 SF	0438.6	0444.5	11	.4			
	8800	SGHR	4 SF	1856.8	1858.5	2.8D	7.9			
	2695	PALE	4 SF	1856.8	1858.1	45.7D	2.4			
	8800	PALE	4 SF	1856.8	1858.1	45.7D	9.4			
	2800	OTTA	4 S/F	1856	1858.1	4	23	7.6		
	2695	SGHR	4 SF	1857.3	1858.8	46.2D	2.2			
	2800	OTTA	30 PBI	1900	1900	27	3.4	1.2		
	2800	OTTA	1 S	1901	1901.8	1.5	2	1		
	2800	OTTA	8 S	1908	1908.2	.2	4.4			
	2800	OTTA	20 GRF	1955	2020	105	2.6	1.3		
4	2800	OTTA	2 S/F	1309.9	1310	1.5	4			
	2800	OTTA	27 RF	1336		120	2.4	2.3		
	2800	OTTA	24 R	1336	1338	2	2.4	1.2		
	2800	OTTA	24P R	1338		112	2.4			
	2800	OTTA	1 S	1341	1342	2	2.6	1.3		
	2800	OTTA	26 FAL	1530	1536	6	-2.4	-1.2		
	2800	OTTA	21 GRF	1600	1616	270	6	3		
	2800	OTTA	22 GRF	1704	1710	70	3.8			
5	2695	LEAR	4 SF	0706.1	0706.8	2.7D	4.6			
	2695	ATHN	4 SF	0706.3	0706.8	3 D	3.9			
	8800	ATHN	8 S	0706.8	0707.3	1.7	.4			
	2800	OTTA	1A S	1257.5	1259	2.5	2.4	1.2		
	2800	OTTA	8 S	1258.8	1258.8	.1	2.6			
	2800	OTTA	4 S/F	1432.6	1433.2	1	34	17		
	2800	OTTA	20 GRF	1800	1840	80	3.4	1.8		
6	2800	OTTA	1 S	1335.9	1336.5	2	2	1		
	2800	OTTA	21 GRF	1435	1537	255	7.6	3.8		
	2800	OTTA	20 GRF	1635	1650	25	2.6	1.9		
	2800	OTTA	1 S	1929	1930	7	2.4	1.2		
7	8800	PALE	4 SF	0056.1	0057.3	44.9D	11			
	2695	PALE	4 SF	0056.1	0057.3	44.9D	5			
	2695	PENT	4 S/F	0056	0057.4	4	40	23.6		
	8800	MANI	4 S/F	0057	0058.7	4.5	122.9	41		
	2695	MANI	1 S	0058	0058.8	2.5	34.8	11.6		
	2800	OTTA	1 S	1317	1319	3	2	1		
	8800	SGHR	8 S	1352.8	1352.8	1	6.8			
	2800	OTTA	20 GRF	1607	1615	15	1.6	.8		
	2800	OTTA	1 S	1712	1713	1.1	3.4	1.6		
	2800	OTTA	20 GRF	1725	1730	12	2.4	1.2		
	2800	OTTA	20 GRF	1835	1840	15	1.6	.8		
	2800	OTTA	4 S/F	1948.4	1948.7	4.6	40	20		
	8800	SGHR	4 SF	1948.6	1950.6	4	1.8			
	2695	SGHR	4 SF	1948.8	1949.8	4.3D	4			
	2800	OTTA	29 PBI	1953	1953	7	3.4	1.7		
	2800	OTTA	3 S	2057.7	2058	1	37	18		
	2800	OTTA	29 PBI	2058.7	2058.7	3	4.4	2.2		
	2695	PENT	240 R	2380	2420	80	10.2	5.1		
8	2695	LEAR	4 SF	0205.1	0205.6	2.2D	1.3			
	2695	LEAR	4 SF	0404.5	0406	404.5D	2.2			
	8800	ATHN	4 SF	0647	0648.1	6.8	40			
	2695	ATHN	4 SF	0647	0648.1	6.1	3.8			
	8800	LEAR	4 SF	0647	0648	8 D	38			
	2695	LEAR	4 SF	0647	0648.1	5.5D	3.5			
	8800	MANI	3 S	0647.3	0648.4	7.7	128.6	42.8		
	2800	OTTA	20 GRF	1440	1445	20	2.2	1.1		
	2800	OTTA	260 FAL	1537	1635	58	-2.8	-1.4		
9	2800	OTTA	3 S	1211.8	1212.5	2.2	34	9		
	2695	ATHN	4 SF	1211.8	1212.6	2.2	4.5			
	8800	ATHN	8 S	1212	1212.6	1.1	2.9			
	2800	OTTA	1 S	1228	1228.7	1.2	3	1.5		
	2800	OTTA	2 S/F	1358	1359.7	3.5	3.6	1.2		
	2800	OTTA	1 S	1534.5	1537	8	6.6	3.3		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	1 S	1656	1657	2	1	.5		
	2800	OTTA	1 S	1728	1729.5	2	3.6	1.2		
	2800	OTTA	3 S	1922	1923	2	11.6	3.8		
	2800	OTTA	22 GRF	1945	1948.5	45	5.4			
	2800	OTTA	22 GRF	2035	2053	55	4.4	2.2		
10	8800	LEAR	4 SF	0515.3	0516.1	11.7	4.9			
	2695	LEAR	4 SF	0515.3	0516.6	11.7D	3.9			
	2695	ATHN	4 SF	0515.3	0516.5	3.2	4.5			
	2695	MANI	3 S	0515.6	0516.8	2.4	43.4	14.5		
	8800	ATHN	8 S	0515.8	0516.1	1.7	2.7			
	2800	OTTA	8 S	1215.5	1215.5	.2	5.4			
	2800	OTTA	23 GRF	1320	1336	65	2.6			
	2800	OTTA	1 S	1357.9	1358	1	5.4	2.7		
	2800	OTTA	20 GRF	1505	1508	15	2.6	1.3		
	2800	OTTA	1 S	1738.7	1740	2.5	2.2	1.4		
	2800	OTTA	1 S	1812	1812.5	1	2.2	1.1		
	2695	PENT	21 GRF	2235	2255	135	11.2	5.6		
	2695	PENT	3 S	2243	2244	3	14	6		
	2695	PENT	1 S	2400.5	2401	1	3	1.5		
11	2695	MANI	1 S	0518	0518.5	1.6	2.7	.9		
	2695	LEAR	4 SF	0522.6	0524.1	8 D	6.1			
	2800	OTTA	21 GRF	1342		160	14.8			
	8800	SGMR	4 SF	1343	1349.8	11 D	2.1			
	2695	SGMR	4 SF	1343	1346.5	12 D	9.4			
	2695	ATHN	4 SF	1343.3	1347	92.3D	8.9			
	8800	ATHN	4 SF	1343.6	1359.3	108.5	3.7			
	2800	OTTA	3 S	1343	1346.8	12	75	26.6		
	2800	OTTA	21 GRF	1634	1749	198	9.2	4.8		
	2800	OTTA	45 C	1635.5	1636	7	11	3.7		
	2800	OTTA	240 R	2010	2025	15	4.8	2.4		
	2695	PENT	1 S	2250.8	2251.2	1.5	6	3		
	2695	PENT	21 GRF	2250	2253	90	5.4			
	2695	PENT	21 GRF	2332	2336	30	3	1.5		
	2695	PENT	3 S	2333.9	2334	1.1	10.6	5.3		
	2695	PENT	1 S	2337	2338	1.8	3.6	2.4		
12	2695	PENT	20 GRF	2305	2317	25	3.2			
13	2695	SGMR	4 SF	1310.3	1312.1	5.7D	1.1			
	8800	SGMR	4 SF	1310.8	1312	5.2	2.6			
	2800	OTTA	2 S/F	1310.9	1315.9	5	7.2	5		
	2800	OTTA	24 R	1310	1316	6	4.4			
	2800	OTTA	27A RF	1310		170	4.4	3.8		
	2800	OTTA	24P R	1316		124	4.4			
	2800	OTTA	1 S	1454	1455.5	3	8.6	4.3		
	2800	OTTA	29 PBI	1457	1457	20	3.6	1.8		
	2800	OTTA	26 FAL	1520	1600	40	-4.4	-2.4		
	2800	OTTA	21 GRF	1855	1955	85	3	1.5		
	2695	PENT	3 S	2009	2009	2	11.8	3		
	2800	OTTA	240AR	2048	2056	16	4.8			
	2800	OTTA	4 S/F	2049.5	2050.7	6	14.4	7		
	2800	OTTA	20 GRF	2125	2143	45	4.8	2.4		
14	8800	PALE	4 SF	0324.8	0325.1	10.2	7.2			
	8800	LEAR	4 SF	0324.8	0325.1	4.3D	9.4			
	2695	LEAR	4 SF	0324.8	0327	7.3D	2			
	2695	ATHN	47 GB	0652.3	0746.1	184.3D	398			
	8800	LEAR	47 GB	0652.5	0737.5	161.5D	318			
	8800	ATHN	47 GB	0653 E	0743.1	183.8	388			
	2695	LEAR	47 GB	0653.8	0745.6	168.2D	388			
	2695	MANI	47 GB	0655	0745.5	96.3	4089.3	1363.1		
	8800	MANI	47 GB	0656	0738	97.7	3060	1020		
	8800	LEAR	4 SF	0814	0821.5	23	32			
	2695	LEAR	4 SF	0814	0821.3	28.3D	38			
	8800	MANI	4 SF	0925.1	0927.5	8.2	13.9			
	8800	ATHN	4 SF	0926.1	0938.3	9.7	1.7			
	2695	ATHN	4 SF	0926.1	0938.1	88.2D	3.2			
	2800	OTTA	22 GRF	1318	1333	35	2.2	1		
	2800	OTTA		1418.8E	1418.9	.5D	8.8			
	2800	OTTA	24 R	1429	1431	2	3.8	1.9		
	2800	OTTA	27A RF	1429		126	3.8	3.4		
	2800	OTTA	2 S/F	1431.5	1434	4.5	9.2	4.4		
	2800	OTTA	24P R	1431		99	3.8			
	2800	OTTA	40 F	1530	1533.3	3.5	8.7			
	2800	OTTA	26 FAL	1618	1635	25	-3.8	-1.9		
	2800	OTTA	21 GRF	1655	1720	135	9.4	4.6		
	2695	SGMR	4 SF	1659	1700.5	45.3D	6.5			
	2695	PALE	4 SF	1659.8	1701.8	45.8D	8.8			
	8800	SGMR	4 SF	1659.8	1701.1	43.7	1.1			
	2800	OTTA	4 S/F	1700	1701.8	6	44.8	11		
	2800	OTTA	21 GRF	1930	2000	85	6.6	3.3		
	8800	SGMR	4 SF	1931	1934.8	8.6	3.2			
	2695	SGMR	4 SF	1931.3	1935	8 D	2.2			

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	3 S	1934.5	1936.3	6	11.4	5.7		
	2800	OTTA	2 S/F	2036	2039.6	5	8.4			
	2800	OTTA	32 ABS	2100	2130	75	-4.4	-2.2		
	2695	PENT	240 R	2240	2305	25	6	3		
	2695	PENT	22 GRF	2316	2319	18	3.4	1.5		
15	2695	PENT	1 S	0045	0045.7	1	3.2	1.6		
	2695	PENT	1 S	0112.5	0113.5	1.5	6.8			
	8800	SGMR	8 S	1818.8	1819.5	1.8	26			
	2800	OTTA	1 S	2145.4	2145.5	1	2	1		
16	2695	PALE	4 SF	0107.8	0109.3	4.2D	28			
	8800	PALE	47 GB	0107.8	0109.5	4.2D	158			
	2695	PENT	4 S/F	0107	0108.9	5	192	44.4		
	8800	MANI	47 GB	0108	0109.5	7	1355.5	451.8		
	2695	MANI	3 S	0108	0109.3	7	93.9	31.3		
	8800	ATHN	4 SF	0759.8	0801.6	70.8	18			
	2695	LEAR	4 SF	0801	0802.6	9.5D	1.6			
	8800	LEAR	4 SF	0801.1	0801.5	9.4D	11			
	2695	ATHN	4 SF	0802.1	0802.8	9 D	.6			
	8800	ATHN	47 GB	0933.6	0937	95.9	160			
	2695	LEAR	47 GB	0934.6	0938.1	28.4D	13.9			
	8800	LEAR	47 GB	0935.1	0937	19.9D	58			
	2695	MANI	4 S/F	0935.3	0936.8	5.3	123.7	41.2		
	2695	ATHN	47 GB	0935.6	0938	104.7D	13.9			
	2800	OTTA	20 GRF	1545	1600	50	6.6	3		
	2800	OTTA	20 GRF	1652	1658	11	1.6			
	8800	SGMR	4 SF	1949.6	1950	6.4D	4.7			
	8800	PALE	4 SF	1950.6	1951.6	5.4D	11			
	2800	OTTA	21 GRF	1950	2045	120	5.8	3.6		
	2695	PALE	4 SF	1951	1952.5	5 D	7.1			
	2695	SGMR	4 SF	1951.1	1952.8	6.7D	7.8			
	2800	OTTA	3 S	1951	1952.8	6	64	29.9		
	2800	OTTA	29 PBI	1957	1957	25	8	4		
	2695	PENT	20 GRF	2220	2250	50	3	1.5		
	2695	PENT	20 GRF	2330	2417	70	6.8	2.3		
	8800	PALE	8 S	2351	2351.3	1.3	11.9			
17	2800	OTTA	20 GRF	1345	1400	40	2.4			
	2800	OTTA	22 GRF	1515	1610	115	5.2	3		
	2800	OTTA	27 RF	1720		155	4	3.4		
	2800	OTTA	24 R	1720	1735	15	4	2		
	2800	OTTA	24P R	1735		110	4			
	2800	OTTA	26 FAL	1925	1955	30	-4	-2		
	2800	OTTA	1 S	2049.7	2050	1	2.8	1.4		
	2800	OTTA	8 S	2202.5	2202.8	.5	2	1		
18	2695	PENT	1 S	0023	0024	2.5	5	2.5		
	2695	PENT	4 S/F	0125.5	0126	1.5	12.8	6.4		
	8800	ATHN	4 SF	0748.1	0801.3	83.9	1.3			
	2695	ATHN	4 SF	0755.1	0823.3	172 D	1.9			
	8800	ATHN	4 SF	1251.1	1253.5	6.5	3.4			
	2800	OTTA	21 GRF	1420	1445	110 D	13.8			
	8800	SGMR	4 SF	1432.5	1438.3	100 D	10			
	2695	SGMR	4 SF	1435.6	1438.3	100 D	3.6			
	2800	OTTA	3 S	1436	1438	6	24.6	9		
	2800	OTTA	21 GRF	1730	1750	50	4	2		
	2800	OTTA	1 S	1755	1755.6	1	8.4	2.1		
	2800	OTTA	20 GRF	1920	1953	90	6.2	3.1		
	2800	OTTA	20 GRF	2120	2135	40	3.6	2		
	2695	PENT	20 GRF	2220	2235	45	3.8	2		
19	8800	ATHN	4 SF	0644.8	0646.1	18.5	40			
	2695	ATHN	4 SF	0645.1	0646.1	56 D	11.9			
	8800	MANI	3 S	0646.5	0647.5	7.7	252.9	84.3		
	2695	MANI	3 S	0647.2	0647.7	1.8	49.4	16.5		
	2695	ATHN	4 SF	0707.6	0708.5	14.5D	.9			
	8800	ATHN	4 SF	0707.6	0708.8	7	3			
	2800	OTTA	21 GRF	1205	1230	95	7.8	3.7		
	2800	OTTA	45 C	1211	1214.8	7	5.2	2.5		
	8800	SGMR	4 SF	1217.6	1219	3.7	2			
	2695	SGMR	4 SF	1355.1	1359	49.7D	5.7			
	8800	SGMR	4 SF	1355.3	1357.6	52.2D	25			
	8800	ATHN	47 GB	1355.3	1357.6	79.5	28			
	2695	ATHN	47 GB	1355.8	1420.3	81.3D	5.6			
	2800	OTTA		1356	1420.5	29	54.6			
	8800	SGMR	4 SF	1416	1420.3	13.3D	7.4			
	2695	SGMR	4 SF	1417.1	1420.3	18.2D	5.9			
	2800	OTTA	29 PBI	1425	1425	90	14	7		
	2695	SGMR	4 SF	1600	1602.3	10.5D	1.1			
	8800	SGMR	4 SF	1600.8	1602.3	9.7D	1.3			
	2800	OTTA	240 R	1600	1601.2	1.2	3	1		
	2800	OTTA	22 GRF	1618	1651	65	3			
	2800	OTTA	240 R	1741	1742.2	1.2	4.4	2.2		
	2800	OTTA	28 GRF	1826	1830.5	34	28	6.7		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2800	OTTA	21 GRF	1910	1930	60	5.2			
	2800	OTTA	4 S/F	1916	1918	11	12.2	6.1		
	2800	OTTA	22 GRF	1935.5	1936.3	16	7.8	3.7		
	2800	OTTA	21 GRF	2015	2045	73	11.6	5.8		
	2800	OTTA	1 S	2019.5	2020.5	2	4.4	2.2		
	2800	OTTA	8 S	2033	2033.2	.6	3	1.5		
	2800	OTTA	1 S	2034	2036.3	8	7.4	2.6		
	2695	PENT	8 S	2257.3	2257.3	.1	11.2			
	8800	MANI	47 GB	2301	2306.2	20.8	2047.5	682.5		
	2695	PALE	47 GB	2302	2306.8	33 D	180			
	8800	PALE	47 GB	2302	2306.3	33 D	270			
	2695	PENT	47 GB	2302	2306.5	38	1520	277		
	2695	MANI	47 GB	2303	2306.4	8.5	993.8	331.3		
	2695	PENT	29 PBI	2340	2340	70	28	12.5		
20	2695	LEAR	4 SF	0738.1	0741.1	6.2D	8.1			
	8800	LEAR	4 SF	0739.8	0742	5.2	1.7			
	8800	LEAR	4 SF	0757.6	0759.6	48.5D	24			
	8800	ATHN	4 SF	0757.6	0759.5	47	20			
	2695	ATHN	4 SF	0758.5	0759.3	52.3D	4.3			
	2695	LEAR	4 SF	0759	0759.5	43.1D	5.3			
	8800	MANI	4 S/F	0759.4	0759.7	1.6	88.4	29.5		
	2695	MANI	3 S	0759.5	0759.7	.7	69.1	23.1		
	2695	SGMR	4 SF	1149.8	1152.6	8.5D	4.7			
	8800	SGMR	4 SF	1151.3	1152.6	5	.9			
	2695	ATHN	4 SF	1151.6	1152.6	2.4D	3.3			
	2800	OTTA	4 S/F	1152	1152.5	2	38	16		
	8800	SGMR	4 SF	1207.8	1208.6	6.2D	4.6			
	2695	ATHN	4 SF	1251.6	1252.6	2.4D	3.3			
	2800	OTTA	20 GRF	1335	1339	70	9.2	3		
	8800	ATHN	4 SF	1337	1338.6	10.6	1.3			
	2695	ATHN	4 SF	1337.1	1338.6	12.4D	.3			
	2800	OTTA	24 R	1458	1503	5	3.8	1.8		
	2800	OTTA	27F RF	1458		165	3.8	3.4		
	2800	OTTA	24P R	1503		130	3.8			
	2800	OTTA	26 FAL	1713	1743	30	-3.8	-1.9		
	2800	OTTA	23 GRF	1800	1844	115	11.2	5		
	2800	OTTA	1 S	1813.8	1815	3	3	1.6		
	2800	OTTA	22 GRF	1857	1859.5	25	11.8	5.9		
	2800	OTTA	1 S	2153.5	2154.3	2	9.2	4.6		
	2695	PENT	20 GRF	2255	2315	50	3.8	1.9		
21	8800	LEAR	47 GB	0349.6	0358.6	51.4D	2.4			
	2695	LEAR	4 SF	0356.5	0358.6	44.6D	2.9			
	8800	SGMR	4 SF	1210	1211.5	4	6.4			
	8800	ATHN	4 SF	1211.6	1212.5	9	5.3			
	2800	OTTA	1A S	1336	1339	10	5.4	2.7		
	2800	OTTA	1 S	1337	1337	1	5			
	2800	OTTA	3 S	1338.2	1338.5	1.2	23	8		
	2800	OTTA	1 S	1348	1453	8	2.2	1.4		
	2800	OTTA	20 GRF	1445	1448.5	15	10	4.8		
	2800	OTTA	20 GRF	1506.5	1509	15	4.2	2.1		
	2800	OTTA	1 S	1524	1524.3	1	5	1.3		
	2695	ATHN	4 SF	1544.8	1545.3	10.2D	1.6			
	8800	ATHN	4 SF	1544.8	1545.3	10.3	.9			
	2800	OTTA	22 GRF	1544	1545	16	7.6	2.6		
	8800	ATHN	4 SF	1556.3	1558.3	53.5	4.8			
	2695	ATHN	4 SF	1556.8	1558	53 D	3.6			
	2800	OTTA	21 GRF	1730	1828	85	3	1.8		
	2800	OTTA	8 S	1826.3	1826.4	.5	2.6	1.3		
	2800	OTTA	21 GRF	1945	2016	75	3.6	1.8		
	2695	PENT	1 S	2010	2011	3	6.6	3.3		
	2800	OTTA	21 GRF	2107	2123	85	3	1.6		
	8800	PALE	4 SF	2109.6	2109.8	3.5D	10			
	2800	OTTA	8 S	2110	2110.1	.5	6.4			
	8800	MANI	47 GB	2350	2352	5.6	1473.8	491.3		
	2695	MANI	4 S/F	2350.3	2352	4.1	90.8	30.3		
	2695	PENT	45 C	2350	2353.2	8	200	47		
	2695	PALE	4 SF	2351.3	2353	6.7	21			
	8800	PALE	47 GB	2351.3	2353	6.7D	190			
	2695	PENT	29 PBI	2358	2358	20	13	6.5		
22	8800	LEAR	4 SF	0213.8	0215.8	6.2D	5.2			
	8800	MANI	4 S/F	0232	0234.3	5.2	341	113.7		
	2695	LEAR	4 SF	0232.1	0235.5	10.9D	3.9			
	8800	PALE	4 SF	0233	0235.1	5 D	29			
	2695	PALE	4 SF	0233	0235.3	5	3.9			
	8800	LEAR	4 SF	0233.1	0235.3	10.9D	31			
	8800	LEAR	8 S	0320	0320.1	1 D	1.3			
	8800	MANI	3 S	0729.2	0729.7	1	53.7	17.9		
	8800	LEAR	4 SF	0730.3	0730.8	2.3	7			
	2695	LEAR	8 S	0730.3	0730.8	1.8D	1.3			
	8800	ATHN	4 SF	0730.3	0730.6	5.5	4.7			
	2695	ATHN	4 SF	0730.5	0730.6	2.8D	1.1			
	8800	LEAR	8 S	0815.1	0815.6	1 D	2.5			

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	2695	LEAR	4 SF	0820.8	0821.8	7.5D	2.2			
	8800	ATHN	4 SF	0821.3	0821.8	7	3.9			
	2695	ATHN	4 SF	0821.3	0821.6	6.3D	1.3			
	8800	LEAR	4 SF	0821.3	0821.8	5.5D	6			
	2800	OTTA	8 S	1154.5	1154.7	.8	6.2	3.1		
	2800	OTTA	240 R	1233	1255	22	7	4.6		
	2800	OTTA	1 S	1315	1316.5	3	2	1.5		
	2800	OTTA	1 S	1907	1907.7	1	3	1.5		
	2800	OTTA	2 S/F	1922	1923.5	2	3.6	1.8		
	8800	PALE	47 GB	2351.3	2353	6.7D	190			
	2695	PALE	4 SF	2351.3	2353	6.7	21			
23	8800	LEAR	4 SF	0202.6	0203.3	2.4	8.2			
	2695	LEAR	4 SF	0202.6	0203.3	2.9D	11.9			
	2695	MANI	3 S	0203	0204.7	2	65.7	21.9		
	8800	MANI	3 S	0203	0203.2	1.8	56	18.7		
	8800	LEAR	4 SF	0619.8	0620.1	5.2D	23			
	8800	ATHN	4 SF	0620.1	0620.6	6.7	16			
	2695	ATHN	4 SF	1048.6	1050.3	7.9D	4.4			
	8800	ATHN	4 SF	1158.1	1159.3	46.2	2.8			
	2800	OTTA	240 R	1525	1600	35	4.2	2.1		
	2800	OTTA	21 GRF	1630	1642	35	5	2.5		
	2800	OTTA	40 F	1631.5	1633.4	3	10.4			
	2800	OTTA	20 GRF	1740	1755	60	3.4	2		
	2800	OTTA	8 S	1853	1853	.1	12.4			
	2695	PENT	20 GRF	2215	2250	75	4.8	2.4		
24	2695	PALE	4 SF	0149.8	0150.1	4.2D	3.9			
	8800	MANI	4 S/F	0506	0507.8	4	141.4	47.1		
	8800	ATHN	4 SF	0506.3	0508.1	19.2	15			
	2695	ATHN	4 SF	0506.3	0509.1	12 D	2.1			
	2800	OTTA	20 GRF	1425	1440	40	2.4	1.2		
	2800	OTTA	21 GRF	1730	1855	300	9.6	4.8		
	8800	SGHR	4 SF	1748	1751.3	8	3.3			
	2695	SGHR	4 SF	1748	1750.1	7 D	1.3			
	2800	OTTA	21 GRF	1749	1752	15	8.2	4		
	2800	OTTA	8 S	1750.1	1750.1	.1	8.2			
25	2695	SGHR	4 SF	1124.1	1129	16 D	11			
	8800	SGHR	4 SF	1127.3	1129.3	12.2	1.1			
	2800	OTTA	20 GRF	1240	1400	220	7.6	4		
	2800	OTTA	21 GRF	1700	1735	85	2.8	1.4		
	2800	OTTA	2 S/F	1811.8	1811.9	1	3.2	1.6		
	2800	OTTA	21 GRF	1910	1930	60	6	3		
	2800	OTTA	45 C	1925.5	1926	3	9.4	4.5		
	2800	OTTA	21 GRF	2030	2045	40	4.8	2.4		
	2800	OTTA	1 S	2036	2037	6	3.2	1.6		
	2800	OTTA	4 S/F	2132	2135	7	11.8	4		
	2695	PENT	21 GRF	2240	2250	48	5.6	2.8		
	2695	PENT	3 S	2244.3	2245.5	4	11.8	5.9		
26	2800	OTTA	20 GRF	1300	1308	60	2.4	1.2		
	2800	OTTA	1 S	1551	1552.5	3	4	2		
	2800	OTTA	20 GRF	1610	1705	118	4	2.4		
	2800	OTTA	20 GRF	1805	1835	105	3.6	1.8		
	2800	OTTA	24 R	2005	2015	10	4	2		
	2800	OTTA	27A RF	2005		135	4	3.7		
	2800	OTTA	24P R	2015		115	4			
	2800	OTTA	4 S/F	2055	2100.8	12	40.4	23.1		
	2800	OTTA	29 PBI	2107	2107	40	13.8	8.4		
	2800	OTTA	26 FAL	2210	2220	10	-4	-2		
27	2800	OTTA	20 GRF	1450	1530	100	4.8	2.4		
	2800	OTTA	20 GRF	1645	1705	55	3.8	2		
	8800	SGHR	4 SF	1844.3	1845.1	4	13			
	2695	PENT	8 S	2243.9	2244	.8	6.6			
28	2695	ATHN	8 S	0757.3	0758	1	1.3			
	2695	LEAR	8 S	0757.8	0758	0.5	1.6			
	2800	OTTA	240 R	1340	1355	15	3.8	1.9		
	8400	BERN	1	1447.2	1448.1	2.2	24			
	2800	OTTA	22 GRF	1515	1530	25	4.4	2.2		
	2800	OTTA	2 S/F	1845	1847	3	3.4			
	2800	OTTA	20 GRF	2000	2010	75	6.6	2.2		
	2800	OTTA	20 GRF	2130	2150	60	5.8	2.9		
29	8400	BERN	1	0913.5	0914	1	20			
	8800	ATHN	4 SF	1107.1	1110.1	13	3.5			
	2800	OTTA	21 GRF	1210	1340	170	9.6	6.5		
	2800	OTTA	1 S	1320.8	1321.4	2	7	3.5		
	2695	ATHN	8 S	1321.1	1321.8	1.7D	.6			
	8800	ATHN	8 S	1321.3	1321.6	1.2	1			
	2800	OTTA	240 R	1630	1648	18	3.8	1.9		
	2800	OTTA	20 GRF	1830	1835	30	2.8	1.4		
	2695	PENT	22 GRF	2110	2240	160	6.8	3.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
SEPTEMBER 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
30	8800	ATHN	4 SF	0612.6	0616.8	88	13			
	8800	LEAR	8 S	0613.3	0616.3	1.30	11.9			
	8400	BERN	3	0615	0616.3	2	76			
	8800	ATHN	4 SF	0801.6	0805.1	22.2	3.6			
	8400	BERN	20	0803.5	0806.1	9.5	19			
	2695	ATHN	4 SF	0804.1	0805.1	18.50	2			
	8800	ATHN	4 SF	1105.8	1109	21	8.6			
	8400	BERN	45	1107.5	1108.5	22.5	86			
	2695	ATHN	4 SF	1108	1109.3	8.30	.6			
	2800	OTTA	20 GRF	1419	1420	30 D	4.8			
	2800	OTTA	260 FAL	1640	1800	80	14.4	7.2		
	2800	OTTA	22 GRF	1900	1911	42	3.8			
	2800	OTTA	260 FAL	2020	2030	10	4	2		

Observatories:

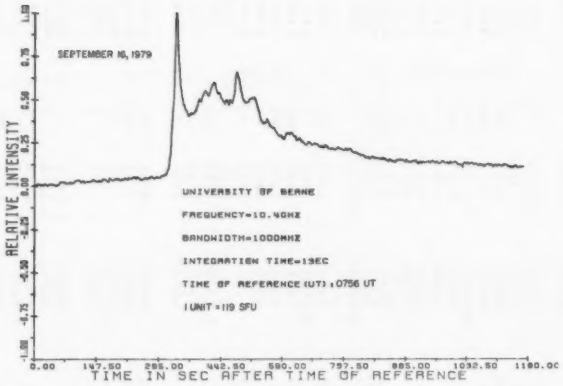
BERN = Berne BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

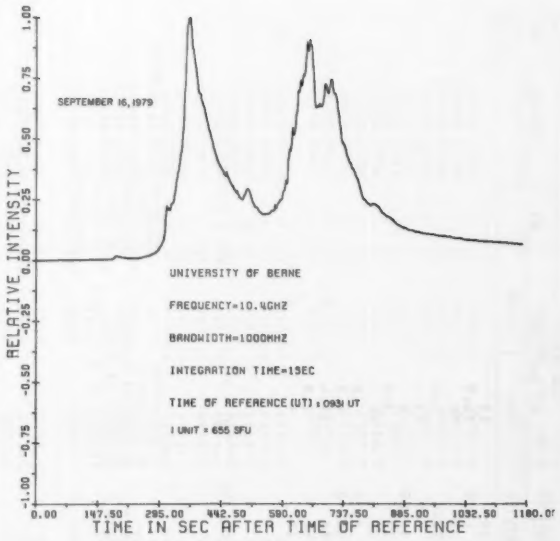
Explanation of Type Code:

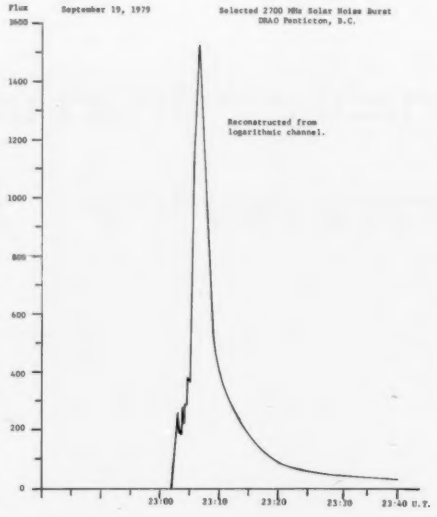
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

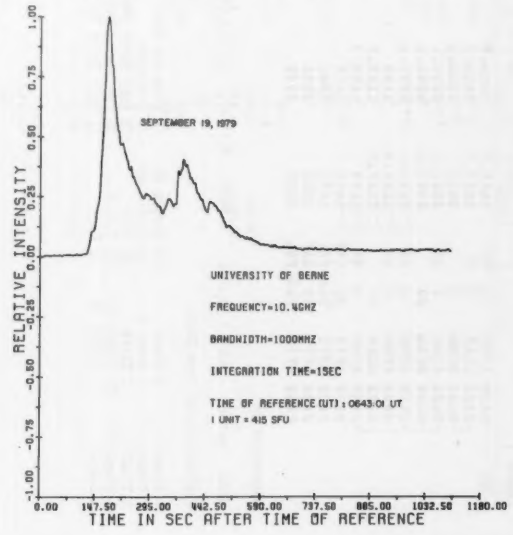
SELECTED SOLAR NOISE BURSTS

SEPTEMBER 1979









PIONEER XII

SEPTEMBER 1979

DATE Sep '79	TIME (UT)	ESV (°)	U_{H^+} (Km/sec)	N_{H^+} (H^+/CC)	T_{H^+} ($\times 10^6$°K)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12	1610		751.	0.24	0.146
13	1653		940.	.417	---
14	*				
15	1710	166.	843.	5.3	.287
16	1647		571.	3.1	.037
17	1516		412.	1.1	---
18	1542		365.	29.2	.060
19	1802		453.	17.1	.21
20	1637		434.	19.5	.117
21	1806		400.	8.3	---
22	0504		406.	13.	.147
23	1452		463.	31.1	.03
24	1454		339.	24.9	.41
25	0658		353.	17.4	.087
26	1624		364.	13.6	.085
27	0624		381.	40.6	.096
28	1814		438.	14.	.149
29	0651	157.	412.	20.3	.059
30	0558		484.	14.6	.237

*Solar wind velocities were in excess of 1200KM/SEC. Experienced some difficulty in the data reduction during this period.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

SEPTEMBER 1979

Big Bear Solar Observatory

Only three D3 limb observations were made during the month of September. These data are presented in numerical form rather than graphically.

Position angles of coronal hole boundaries (in degrees)

Date	North		South	
6 September	18	-2		
20 September			-175	170
25 September	None			

SOLAR WIND

Interplanetary Scintillations

SEPTEMBER 1979

DAY	3C48 VEL	ERR	3C144 VEL	ERR	3C147 VEL	ERR	3C161 VEL	ERR	3C237 VEL	ERR	3C273 VEL	ERR	3C298 VEL	ERR	3C459 VEL	ERR
1	337	19	378	20			467	32					357	23		
2			380	23									323	5		
3													352	11		
4							335	16					315	19		
5	378	4	492	57			363	5					418	18		
6			440	8			467	28					398	20		
7			243	22			541	9			250	6	428	11		
8			377	73			271	5					283	5		
9			318	7			482	36					288	8		
10			367	17			337	33					422	33		
11	394	39	368	17												
12							341	17								
13	362	9	258	7			405	5								
14	445	31	288	13												
15	277	20	372	19												
16	209	*	308	9			532	26					382	19		
17	350	24	426	21			512	31					385	9		
18	474	19	315	48					303	45			385	6		
19	390	27	406	14	444	56	382	15					349	16		
20					278	51	389	42					262	47		
21							436	12	349	7			383	6		
22	415	81	286	7	387	106	362	31	320	19						
24													463	10		
25			278	23			395	33					432	41		
26							351	23	280	27			386	7		
27			390	12									392	33		
28							324	38	291	12			408	54		
29													336	14		
30							341	67					391	15		

SEPTEMBER 5	UT	LAT	DIST	DLON
3C48	11.	12.	1.20	11.
3C144	15.	6.	0.99	17.
3C147	14.	14.	0.98	16.
3C161	16.	-3.	0.93	18.
3C237	20.	-14.	0.22	75.
3C273	22.	13.	0.40	-68.
3C298	24	21.	0.76	-39
3C459	8.	9.	1.30	2.

15	UT	LAT	DIST	DLON
3C48	10.	12	1.23	9.
3C144	14.	6.	1.04	17.
3C147	13	14	1.03	16.
3C161	16.	-1.	0.98	15.
3C237	19.	-7.	0.38	67.
3C273	21	22.	0.24	-78
3C298	23	27.	0.66	-47
3C459	8	9	1.30	-0

25	UT	LAT	DIST	DLON
3C48	10.	11.	1.25	7.
3C144	14.	5	1.09	16.
3C147	13.	13.	1.07	15.
3C161	15.	-2.	1.02	14.
3C237	18.	-4	0.53	57
3C273	20.	57.	0.10	-90.
3C298	22.	36.	0.54	-54.
3C459	7.	8.	1.29	-3

*indicated data for which no error estimate is available since only two antennas were operating.

INFERRED IP MAGNETIC FIELD

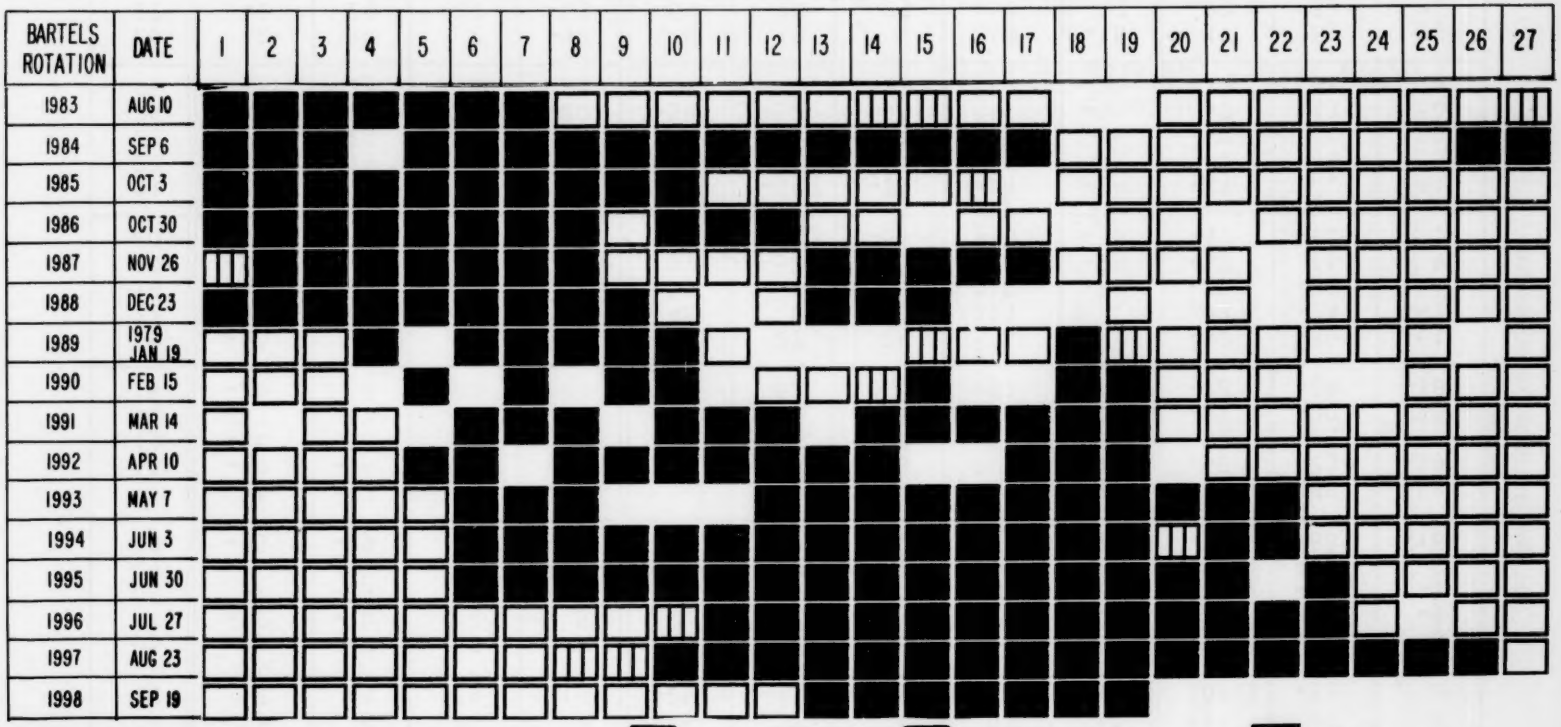
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1982	JUL 19									TA							-			TA				AT	AT *		TA	
1983	AUG 15					TA			AT		AT AT			AT	TA						A*						TA	
1984	SEP 11			TA		AT				TA	T*						A*		—				—			A*	TA -	
1985	OCT 8	*	TA		T*		AT				—	—	—						TA	TA —		AT		—				
1986	NOV 4		-				-	AT -	-		-	-						*	AT	-		AT	AT	AT	AT			
1987	DEC 1	AT	AT	-					-		-	TA	-	-	AT -	-	AT -	TA -	-	A*	-		*		-	AT -	-	
1988	DEC 28		-	-	-	-			-	AT *			TA	TA T*		-	AT -	-	TA			-	TA -			-	TA	-
1989	1979 JAN 24		-			*		TA			TA		TA							*					-		AT	
1990	FEB 20		TA		-	TA -	TA			-	TA -	TA		TA		TA A*		TA A*		TA A*				A*				
1991	MAR 19		AT			AT		T*						*	-	-	-	-	TA -		AT		T* TA	TA -	A*	-		TA A*
1992	APR 15		A*	TA T*	AT			TA TA			T*						TA	*	-	-	AT -	TA				A*		-	TA
1993	MAY 12									-	-		AT			*		TA			AT AT					- -		- -
1994	JUN 8	TA	TA A*		TA						-	AT		-					T*	-	TA		TA T*			AT T*	-	TA
1995	JUL 5	TA	TA	AT		TA		AT A*	TA		TA -			TA		AT				*				TA T*				TA
1996	AUG 1			AT	A*	-			TA -	-	-		T*				*	-			AT					AT *		
1997	AUG 28			-	A*						AT							-		-		T*	-	AT	TA -		TA AT	
1998	SEP 24						A*																					

[■] = definitely towards the sun [ ] = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤ FIELD ≤ 2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

Note: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the sun which affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1978				1979							
DAY	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.
01	26	-11	-18	-72	11	.	-36	-4	26	41	97	24
02	32	-20	-21	-39	.	-1	.	16	13	82	86	21
03	15	-14	-36	-7	15	30	.	57	6	137	70	6
04	18	-8	-28	17	-6	27	-24	44	10	115	35	4
05	2	-3	-19	19	-25	-13	-6	11	45	104	-33	2
06	-24	-7	-12	9	-26	1	46	9	68	78	-61	-6
07	-12	-20	3	5	.	50	64	14	101	15	-81	-8
08	-7	-29	-6	-15	.	88	56	67	134	-27	-80	-8
09	.	-37	-17	-26	.	59	.	102	126	-50	-70	-6
10	-35	-29	-3	-37	27	39	.	124	75	-76	-68	-16
11	-34	-32	5	-19	.	40	21	138	31	-82	-75	-43
12	-42	-14	9	-16	27	30	63	100	-13	-52	-23	-59
13	-36	2	.	13	.	.	100	51	-66	-52	-23	-46
14	-27	7	16	31	45	78	106	-12	-104	-37	-20	-33
15	-26	8	20	43	21	62	.	-51	.	-28	-24	-38
16	-36	9	.	65	36	27	24	.	.	-42	-30	-61
17	-48	5	34	.	48	6	45	-121	.	-43	-26	-57
18	-44	-1	42	59	59	.	.	-117	-27	-35	-32	-41
19	-50	.	.	30	37	-52	-56	-72	-29	-32	-16	4
20	-33	4	55	18	18	.	-81	-40	-36	-37	-10	.
21	-21	3	35	32	9	-86	-81	-27	-34	-24	.	41
22	-14	19	40	27	-15	.	.	-32	-43	0	-16	55
23	5	20	28	-3	.	-80	-51	-40	-56	-7	6	58
24	31	25	27	-20	-54	-52	-41	.	-51	-7	33	68
25	43	23	18	-26	-64	.	-28	.	-30	10	58	74
26	42	24	2	-32	-70	19	.	-99	-16	17	69	77
27	40	29	-17	-63	-64	10	-29	-92	-17	29	83	47
28	29	30	-48	-51	-27	0	-36	-57	-4	47	92	40
29	15	17	-61	-36	12		-12	.	19	64	90	32
30	2	-3	-65	-22	.		-26	3	10	93	82	1
31		-16		-21	.		-28		9		53	-1

BOULDER GEOMAGNETIC SUBSTORM LOG

SEPTEMBER 1979

DATE	ONSET TIME	DIRECTION	COMMENTS
01			Field unsettled after 1700 UT. No distinctive SS activity.
02	0900		Field slightly unsettled. Weak SS.
03	0645	≈ center	Field intermittently unsettled throughout the day.
04	0525	East	
	0715	West	Onset of multiple injections SS activity with final recovery near 0915 UT. Field remained unsettled balance of the day with no distinctive SS activity.
05	0220	East	Boulder in partial ring current sector.
	1225		
	1615		
06	0410	East	
	0935	West	
07	0420	East	Weak SS.
	0915	West	Weak SS.
08	0830	≈ center	Moderate SS.
09	0605	East	Weak SS.
10	0520	East	Weak SS.
	1045	West	Weak SS.
	1730		Moderate SS, slow onset.
	2040		Cape Parry northward (polar cap only).
11	0650	≈ center	
	1010	West	Moderate SS.
	1500		
	1620		
	1930		Sachs Harbour - Johnson Pt. only.
	2240		Sachs Harbour - Johnson Pt. only.
12			Field unsettled after 1700 UT with no distinctive SS activity.
13			Quiet day.
14	2040		Cape Parry northward (polar cap only).
	2210		Cape Parry northward (polar cap only).
15			Quiet day.
16			Minor perturbations, no distinctive SS activity.
17	0635	East	
	2115		Field became active, no distinctive SS activity.
18			The field remained active until an SSC at 0545 UT. Magstorm conditions existed through 1730 UT.
	0735		Strong SS.
	0955		Strong SS.
	1150		Strong SS.
19			Quiet day.
20	1205		Weak SS.
	1305		Onset of sustained moderate to strong SS activity with field recovery at 1730 UT.
21			Unsettled field conditions throughout the day.
	0040	East	Boulder in partial ring current sector.
	0505	East	
	0850	West	
22	1315		Moderate SS along auroral oval stations but very strong response at Ft. Yukon.
23			Field intermittently unsettled.
24	0420	East	Weak SS.
	1055		Onset of sustained moderate to strong SS activity with field recovery at 1600 UT.
25	0615	East	
	1450		Slow onset to moderate to strong SS with field recovery at 1820 UT.
26			Field unsettled to active throughout the day.
	0645	East	1st of double onset.
	0720	East	2nd of double onset.
	1035	West	
	1300	West	
	1400	West	
27	0310	East	
	1230	West	
28			Field unsettled to active throughout the day.
	0430	East	1st of double onset, weak SS.
	0500	East	2nd of double onset, moderate SS.
	0735	West	
	0850	West	
	1315	West	
	1600		
29			Field unsettled throughout the day.
	0325	East	Weak SS.
	0355	East	Weak SS.
	0750	West	Weak SS.
	0820	West	Weak SS.
	1240	West	Moderate SS.
30			Field intermittently active, no distinctive network SS activity.

SGD 422 Part I (Prompt)

AUGUST 1979 DATA

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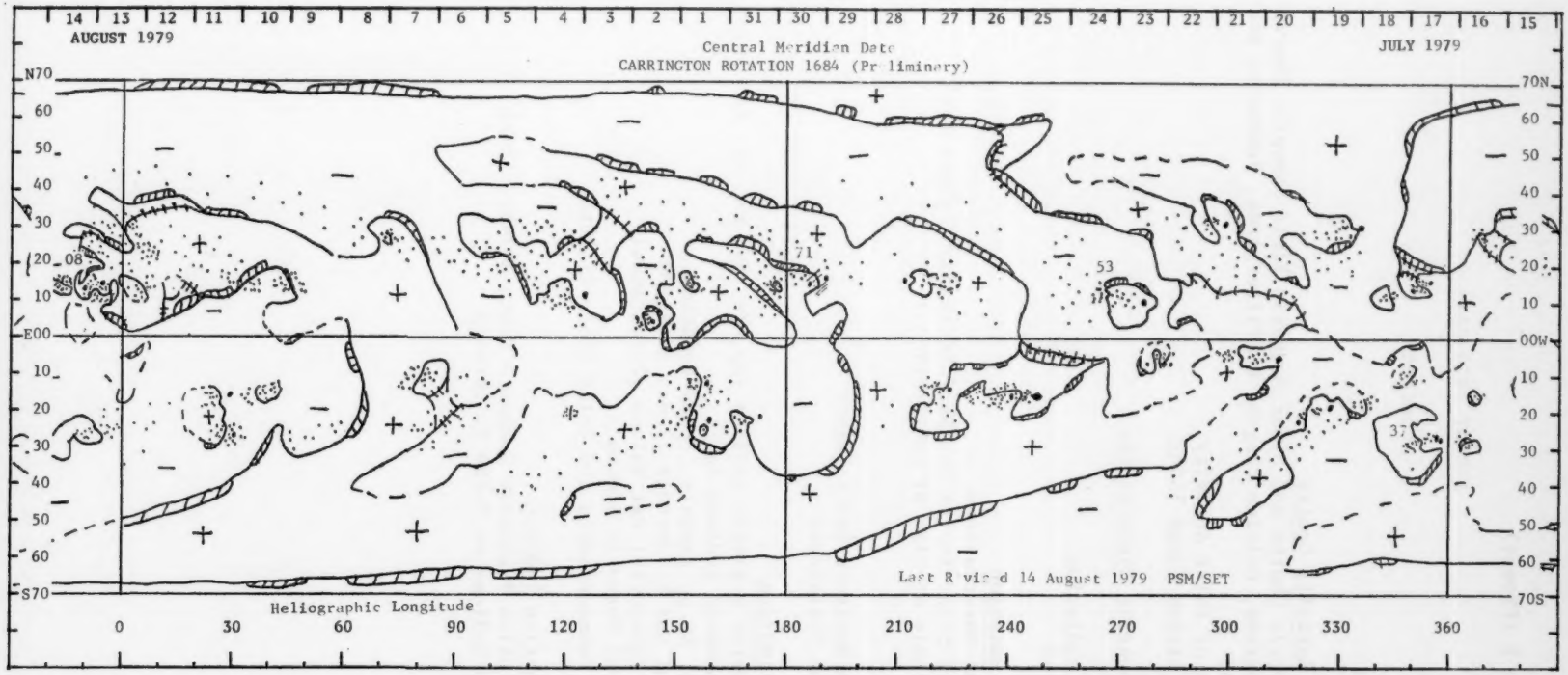
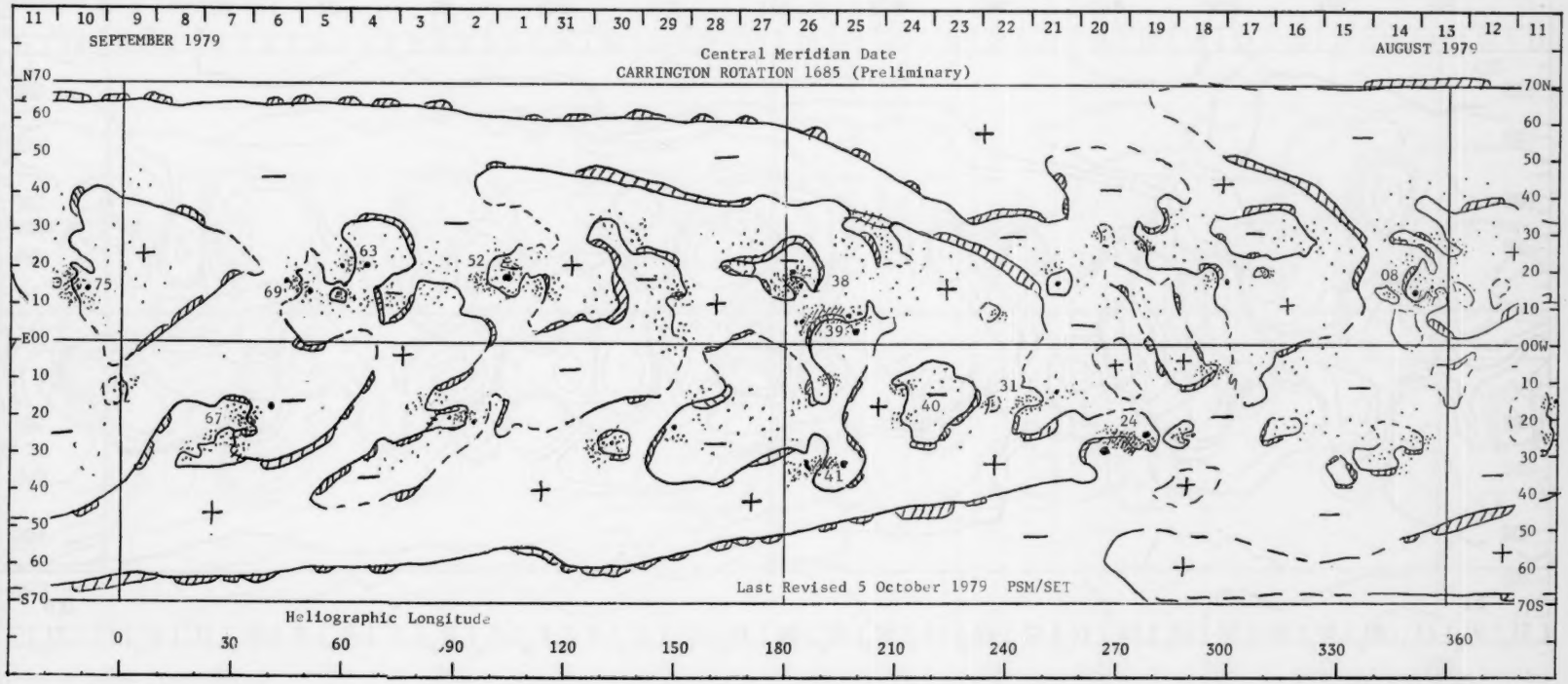
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1684 (PRELIMINARY)



Hα SYNOPTIC CHART

CARRINGTON ROTATION 1685 (PRELIMINARY)

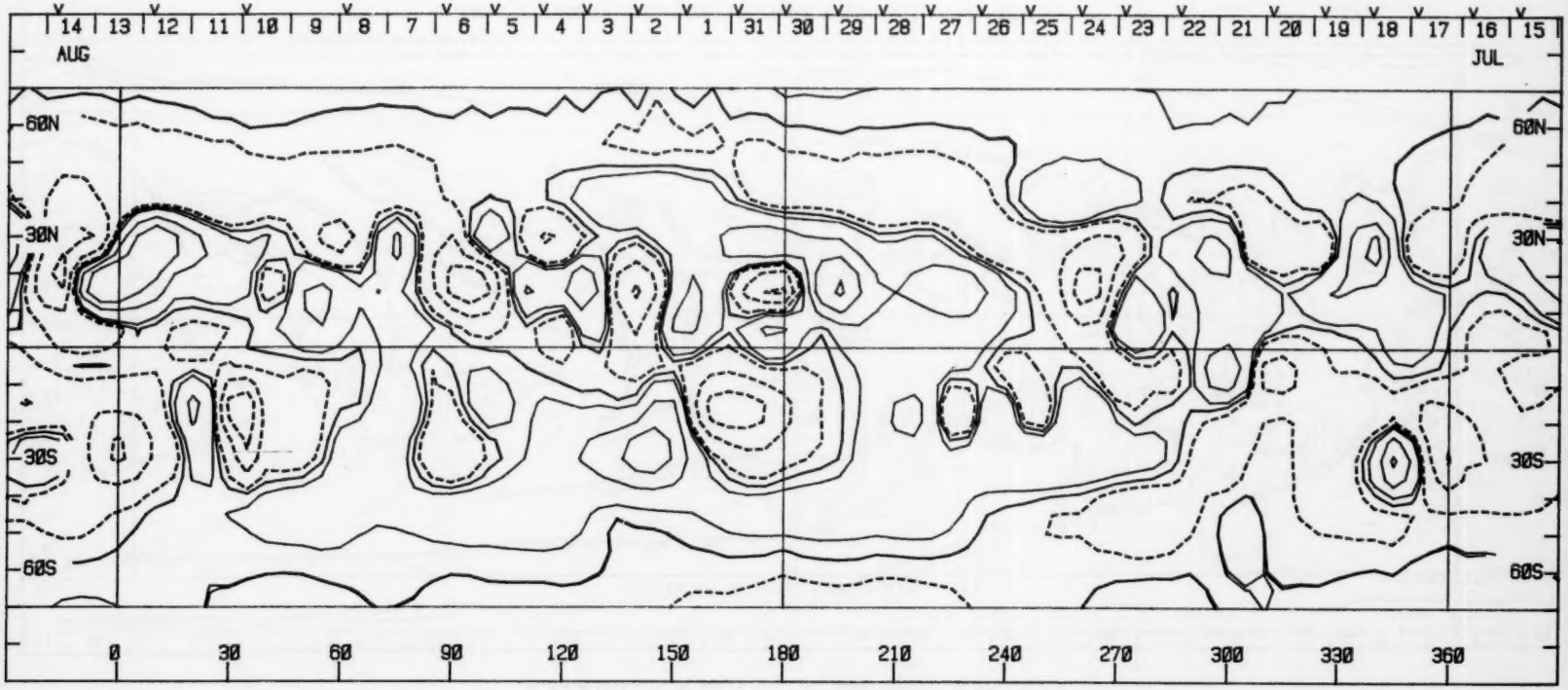


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION 1684

Stanford Solar Observatory

0,±100,200,500... μT

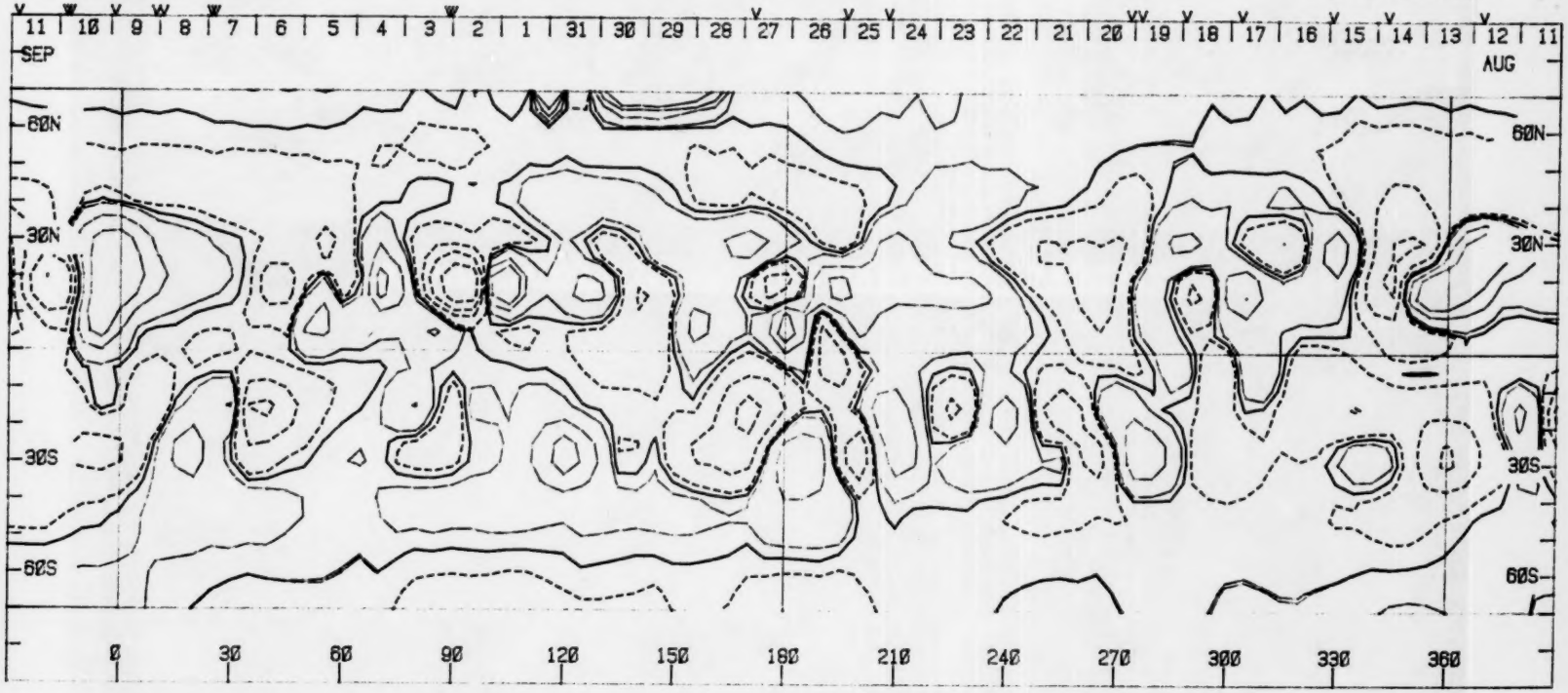


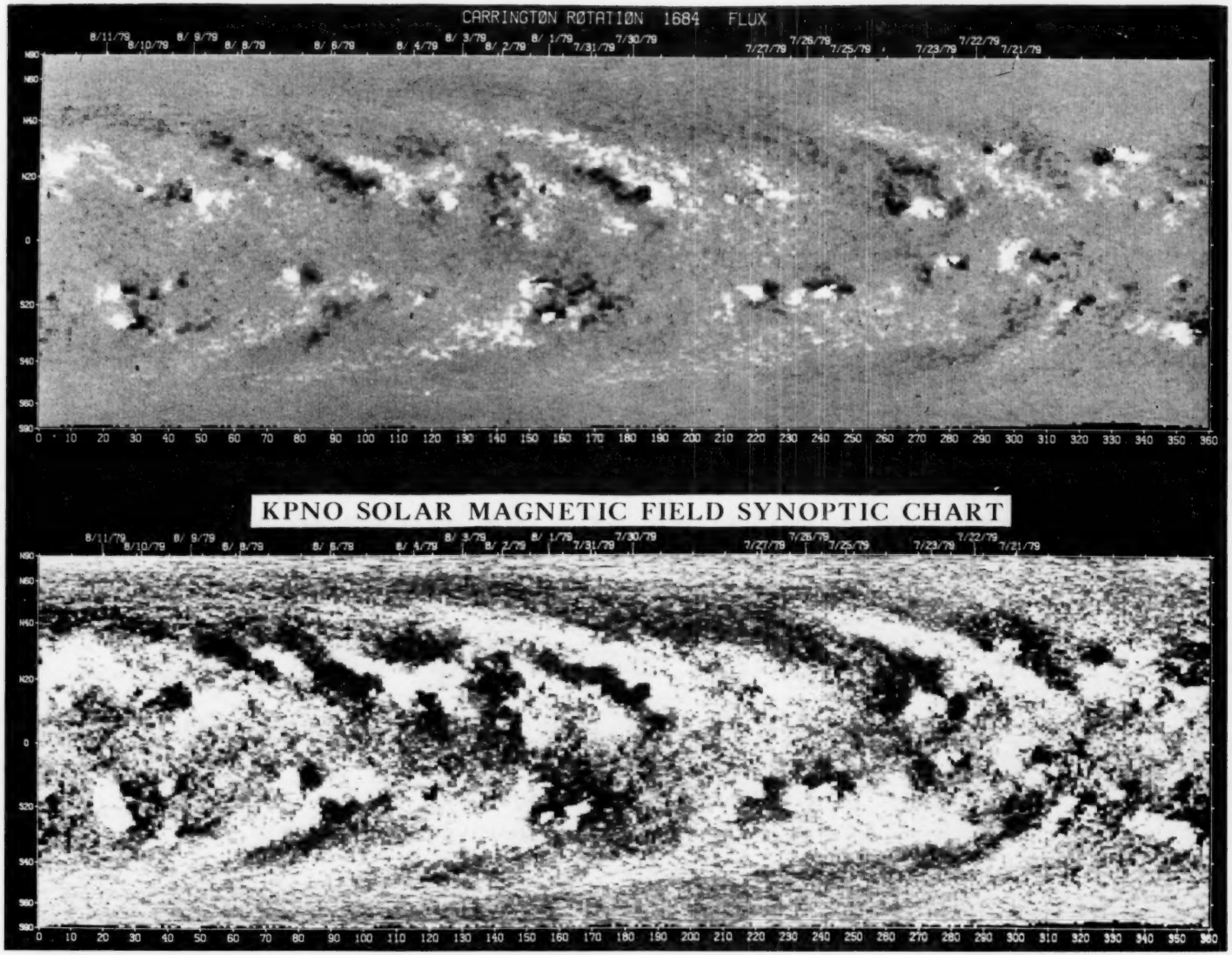
SOLAR MAGNETIC FIELD SYNOPTIC CHART

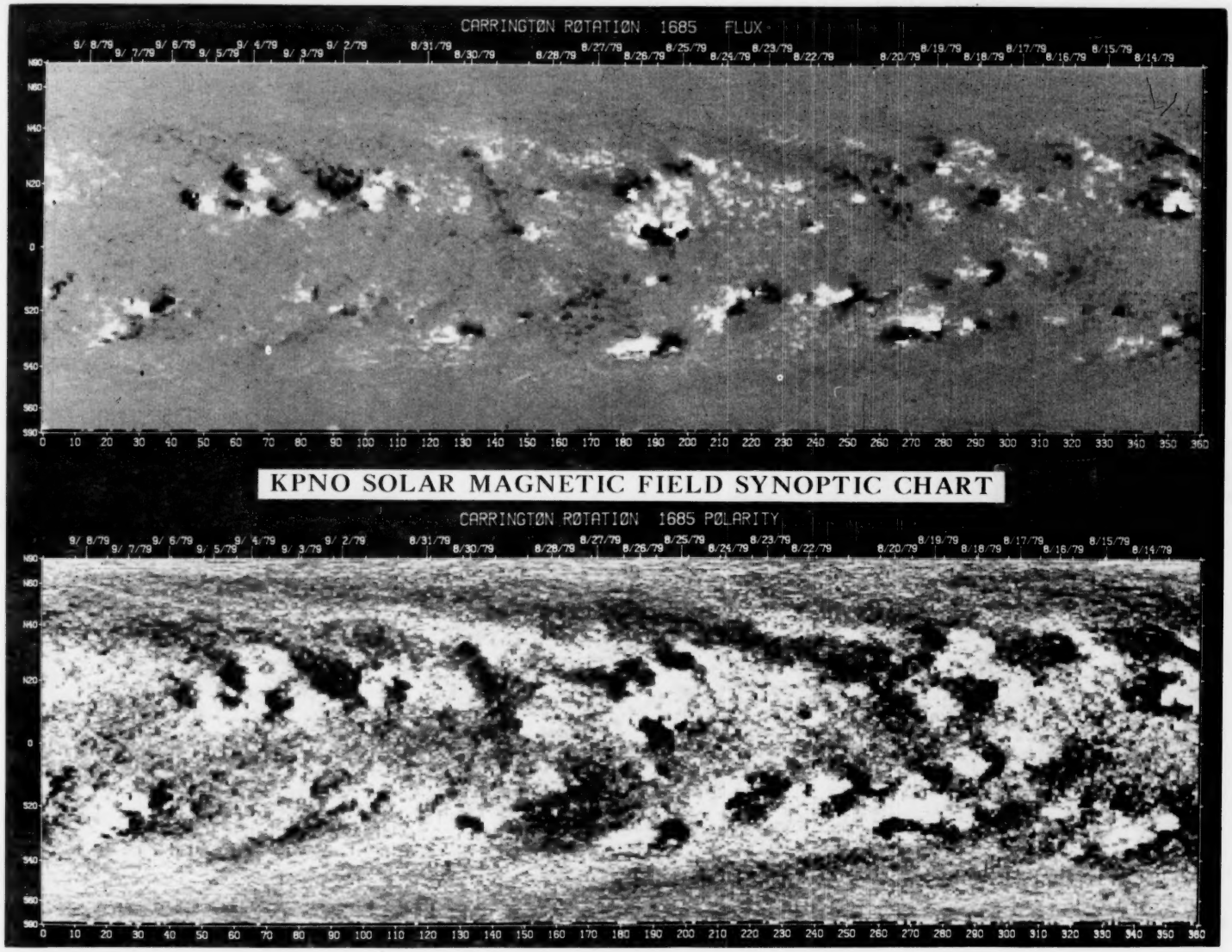
CARRINGTON ROTATION 1685

Stanford Solar Observatory

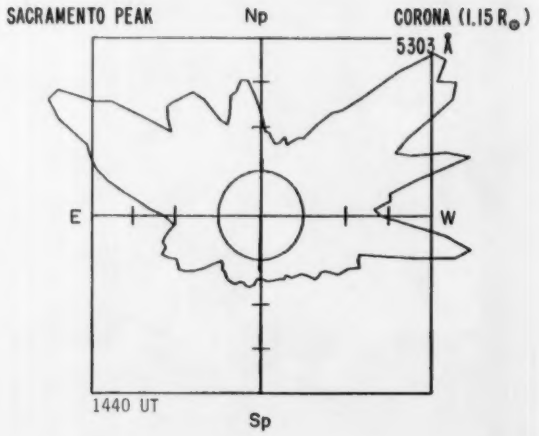
0.,±100.,200.,500... μT

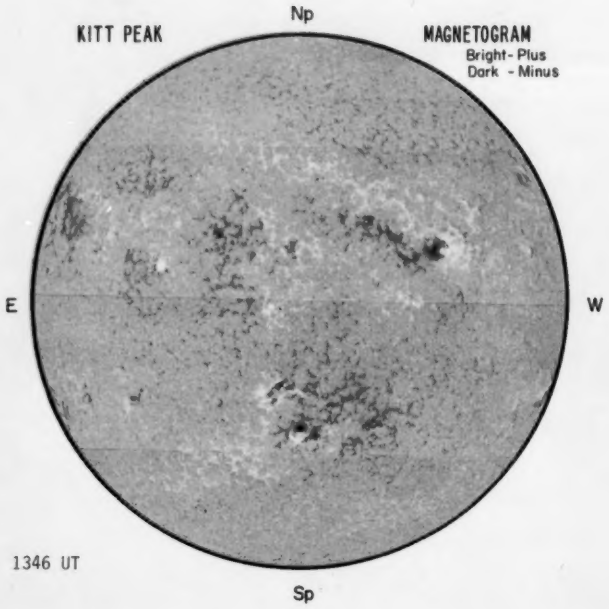


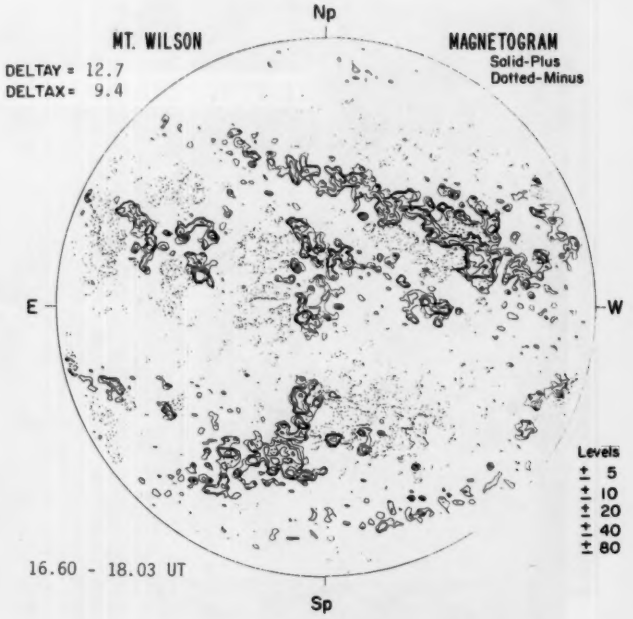

CARRINGTON ROTATION 1684 FLUX
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART


CARRINGTØN RØTATIØN 1685 FLUX
9/ 8/79 9/ 7/79 9/ 6/79 9/ 5/79 9/ 4/79 9/ 3/79 9/ 2/79 8/31/79 8/30/79 8/28/79 8/27/79 8/26/79 8/25/79 8/24/79 8/23/79 8/22/79 8/20/79 8/19/79 8/18/79 8/17/79 8/16/79 8/15/79 8/14/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTØN RØTATIØN 1685 PØLARITY
9/ 8/79 9/ 7/79 9/ 6/79 9/ 5/79 9/ 4/79 9/ 3/79 9/ 2/79 8/31/79 8/30/79 8/28/79 8/27/79 8/26/79 8/25/79 8/24/79 8/23/79 8/22/79 8/20/79 8/19/79 8/18/79 8/17/79 8/16/79 8/15/79 8/14/79
N80 N60 N40 N20 0 S20 S40 S60 S80
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360

AUGUST 1, 1979 (P = 10.59, B_o = 5.76, L_o = 163.82)

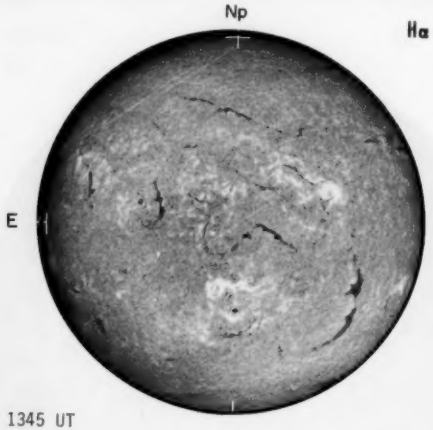


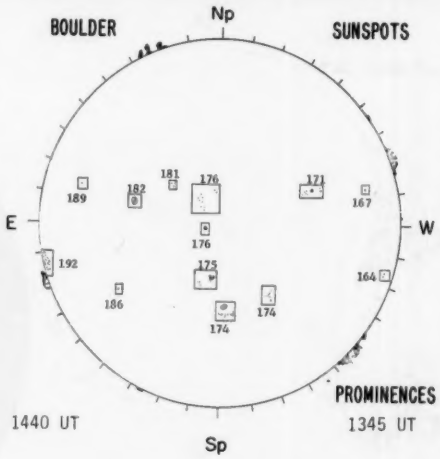


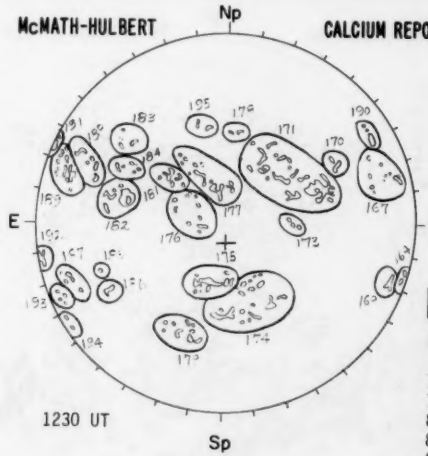


Sp

Sp

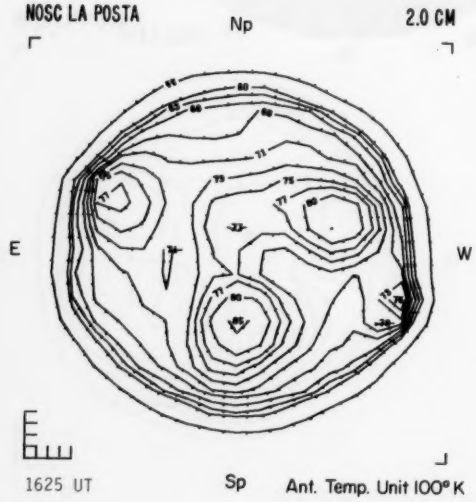


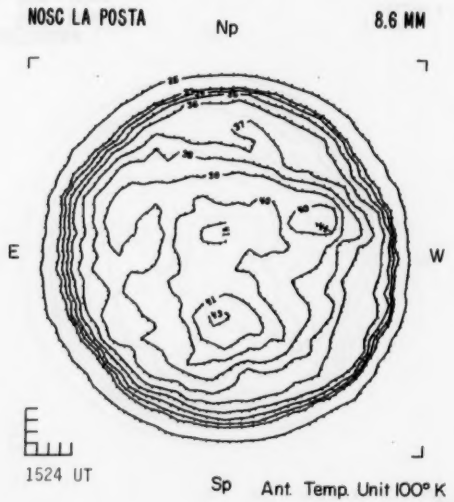


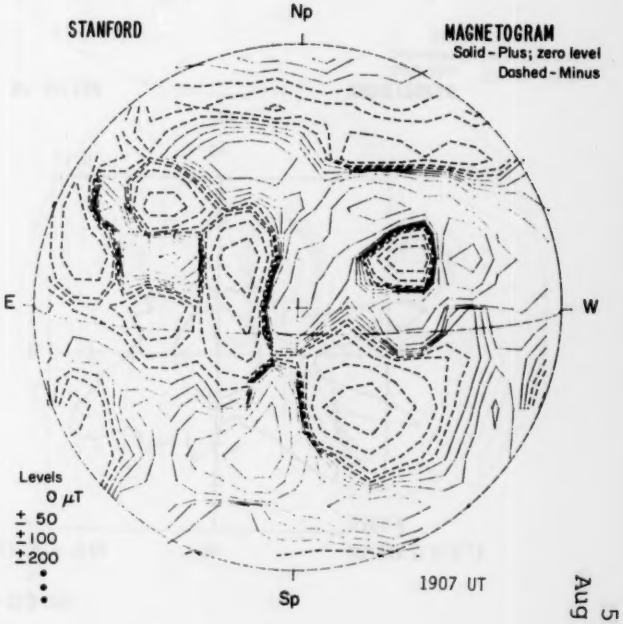


FAIR	S

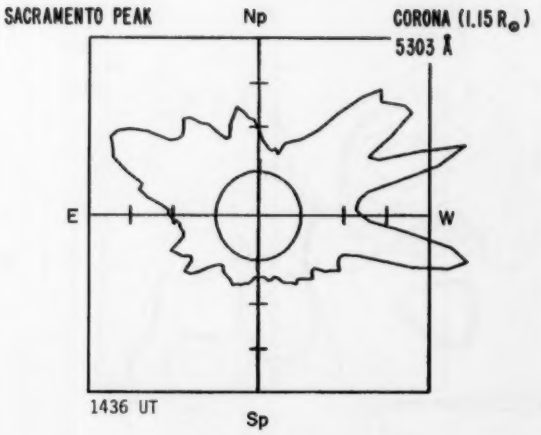
69- 0900-3.0
71- 4200-3.0
74- 2400-3.0
75- 1400-3.5
86- 0300-2.5
89- 1400-2.5
92- 1500-2.5

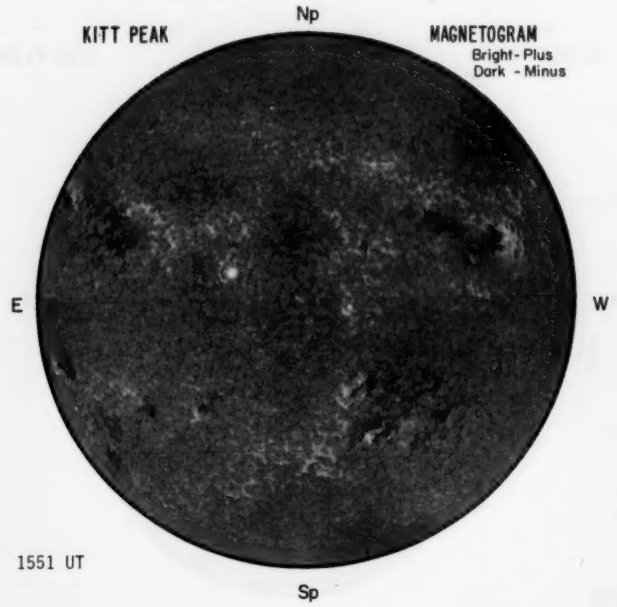


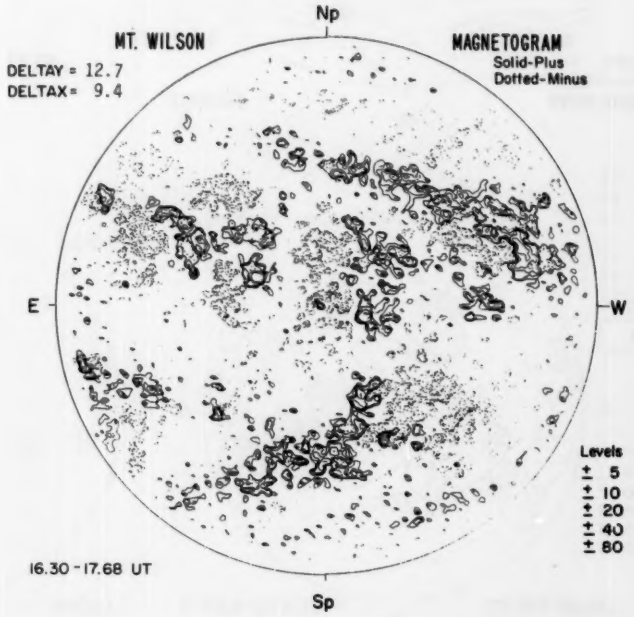




AUGUST 2, 1979 (P = 10.99, B_o = 5.83, L_o = 150.59)







Sp

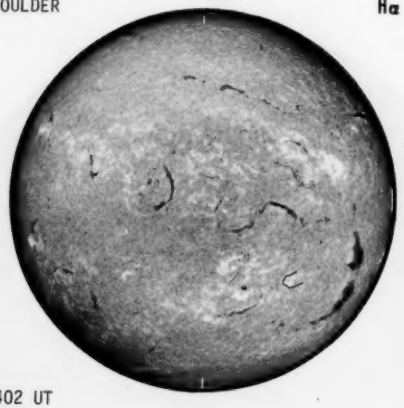
Sp

02

BOULDER

Np

Hα



E

W

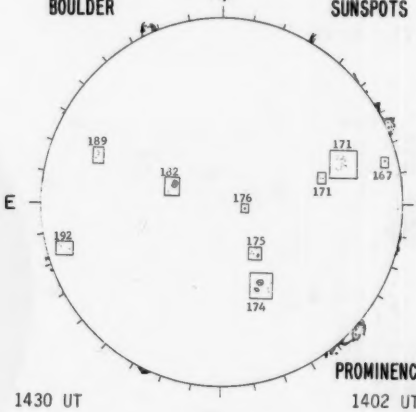
1402 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1430 UT

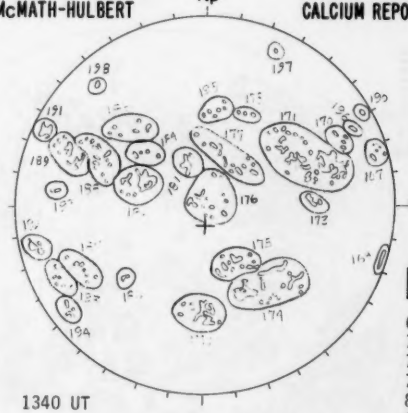
1402 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1340 UT

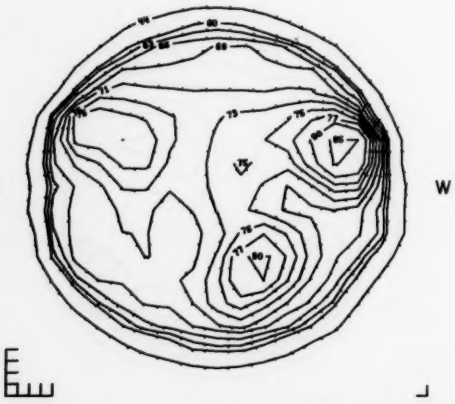
Sp

V	GOOD	S
69-	1000-	2.5
71-	4500-	3.5
74-	2600-	3.0
75-	1100-	2.5
86-	0200-	3.0
91-	1200-	3.0
92	1100-	3.0

NOSC LA POSTA

Np

2.0 CM



E

W

1623 UT

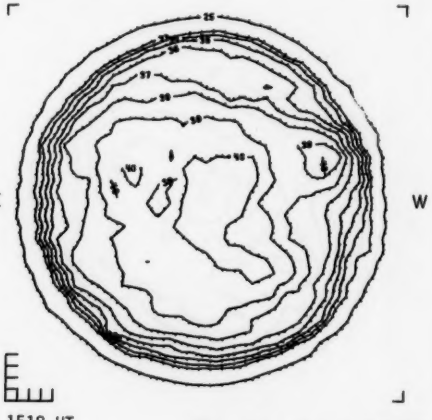
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1518 UT

Sp

Ant. Temp. Unit 100° K

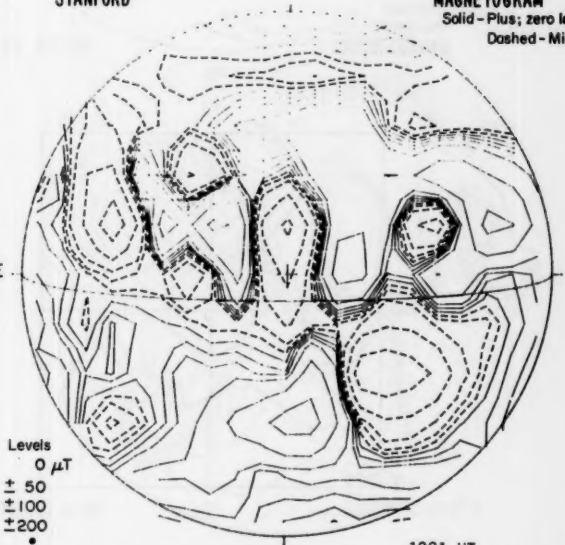
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

•

•

•

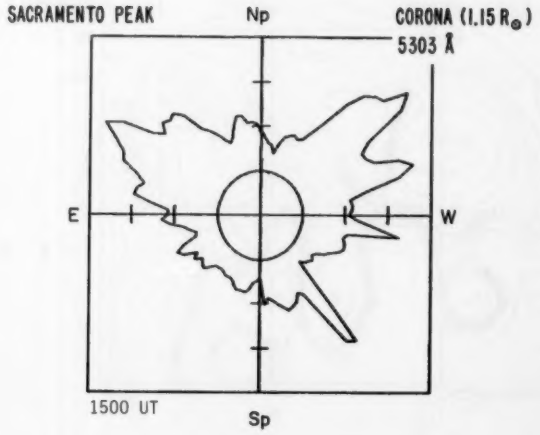
1921 UT

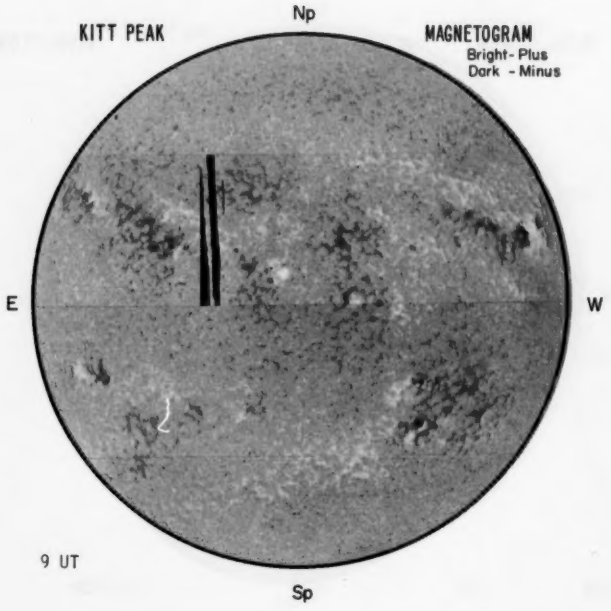
Sp

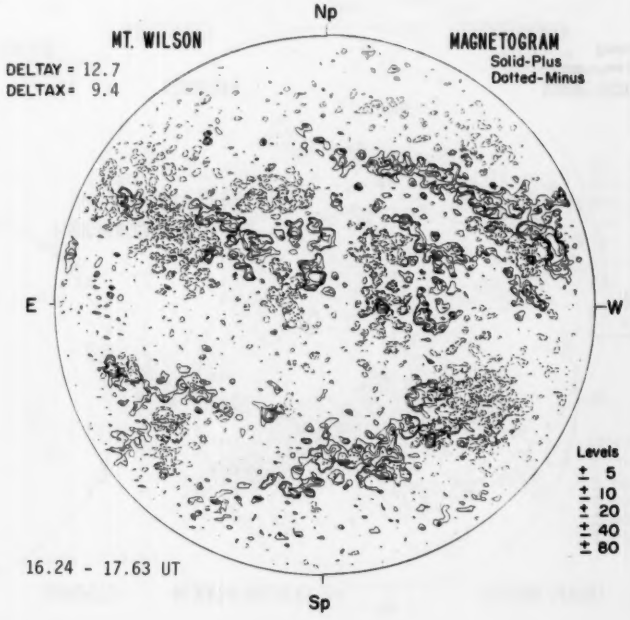
55

Aug 79

AUGUST 3, 1979 (P = 11.39, B_o = 5.91, L_o = 137.37)







Sp

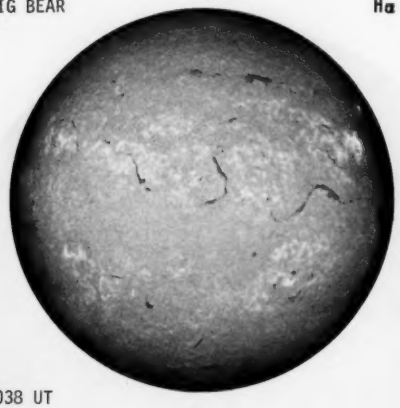
Sp

03

BIG BEAR

Np

Hα



E

W

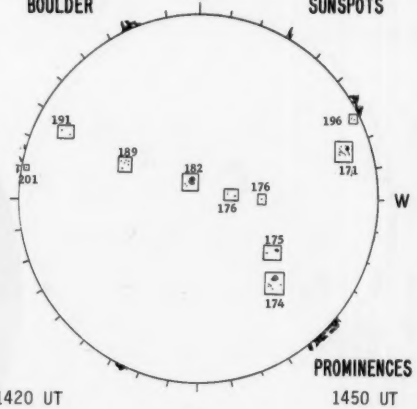
2038 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1420 UT

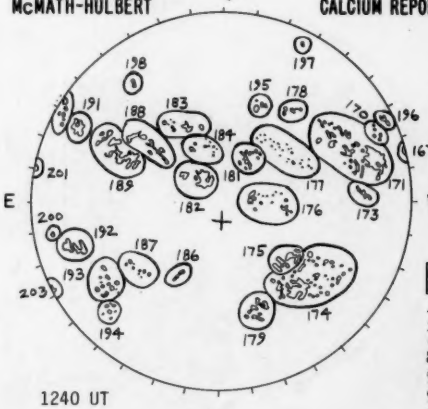
Sp

1450 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1240 UT

Sp

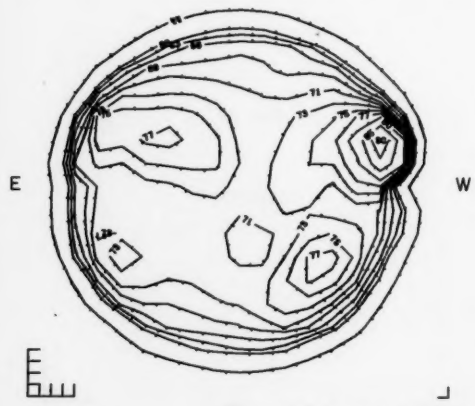
GOOD	M

71- 4700-3.5
74- 2700-3.0
82- 1200-2.5
91- 1300-2.5
92- 1300-2.5
96- 0600-3.5

NOSC LA POSTA

Np

2.0 CM



E

W

1649 UT

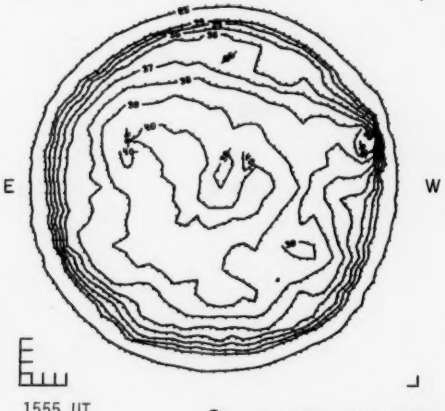
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1555 UT

Sp

Ant. Temp. Unit 100° K

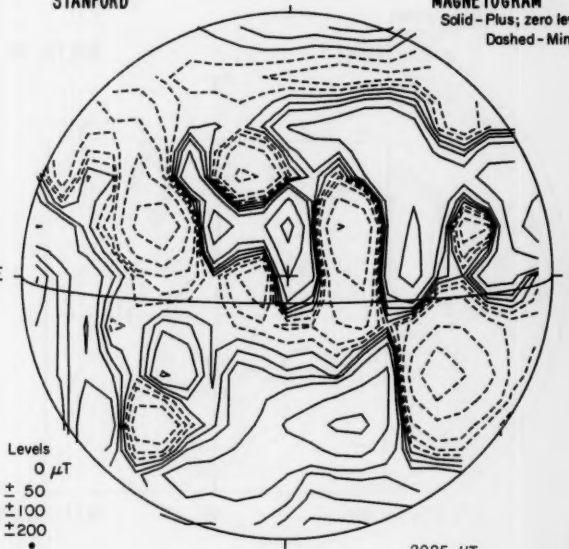
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

•

•

•

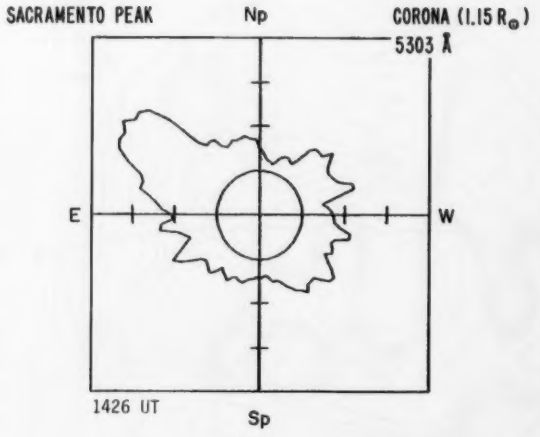
2025 UT

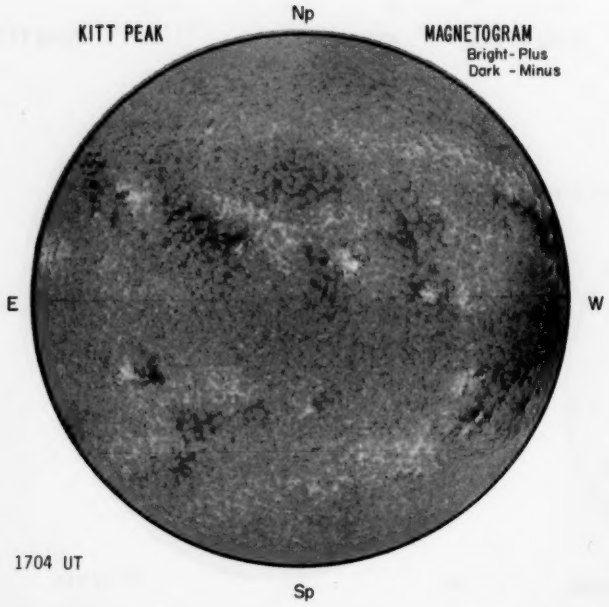
Sp

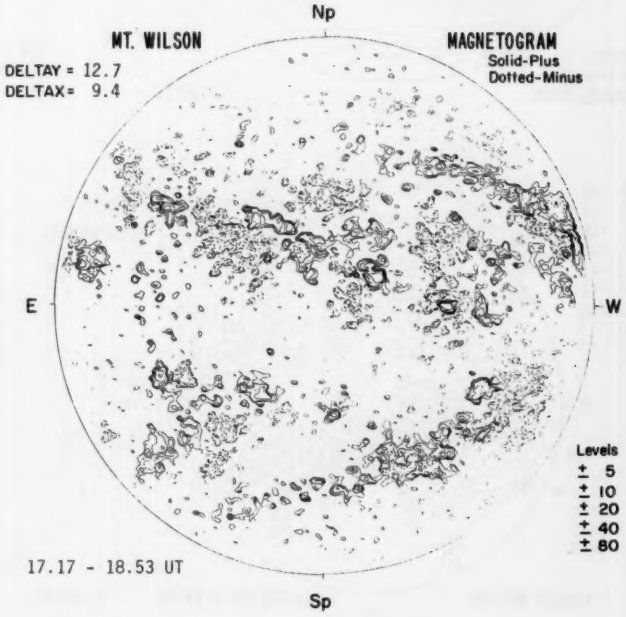
57

Aug 79

AUGUST 4, 1979 (P = 11.78, B_o = 5.97, L_o = 124.14)







Sp

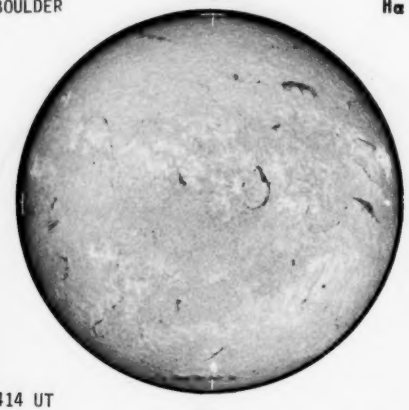
Sp

04

BOULDER

Np

Hα



E

W

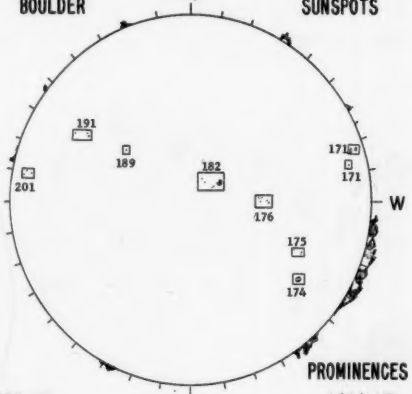
1414 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1420 UT

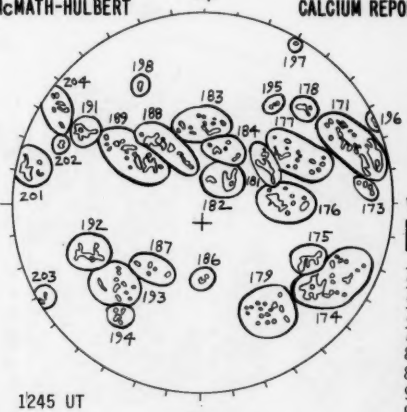
1414 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1245 UT

Sp

GOOD	S

71- 4500-3.5
74- 2800-2.5
75- 1100 2.5
76- 1000-2.5
82- 1200-2.5
89- 1600-2.5
91- 1200-2.5
92- 1200-3.0
96- 0600-2.5
01- 1600-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

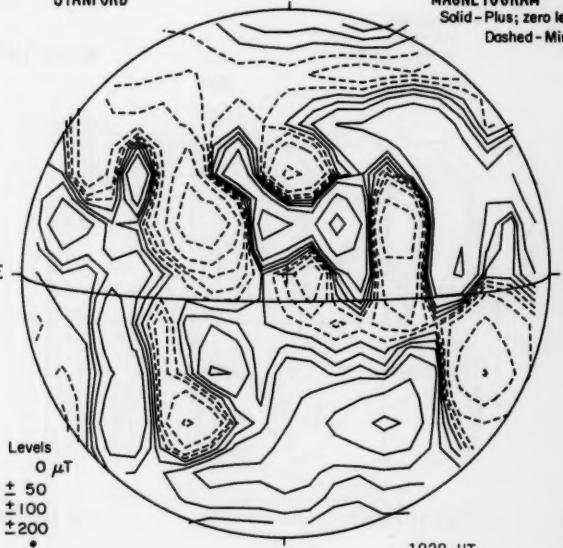
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

•

•

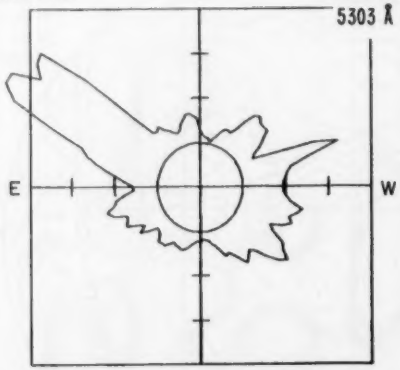
•

1828 UT

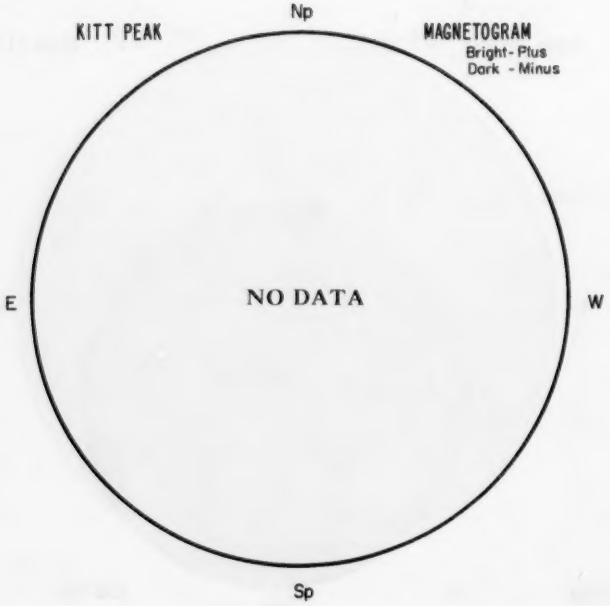
Sp

AUGUST 5, 1979 (P=12.16, B_o=6.04, L_o=110.92)

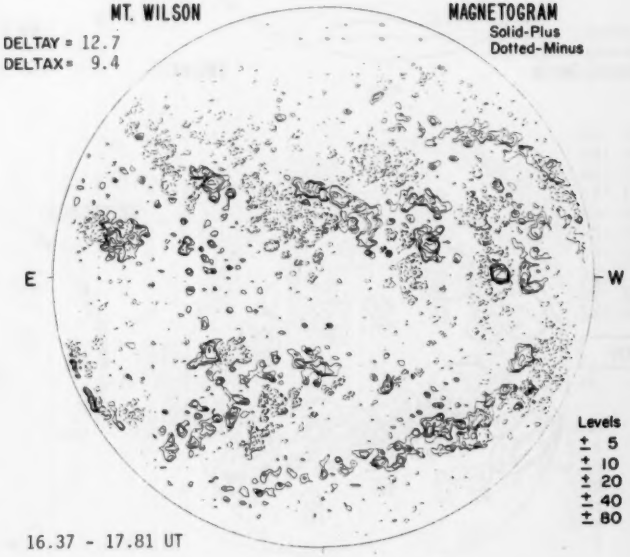
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4

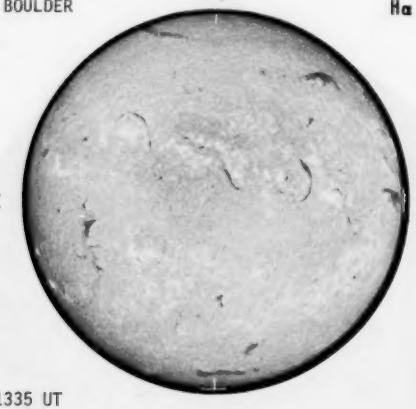


16.37 - 17.81 UT

05
BOULDER Np Hα BOULDER Np SUNSPOTS McMATH-HULBERT Np CALCIUM REPORT

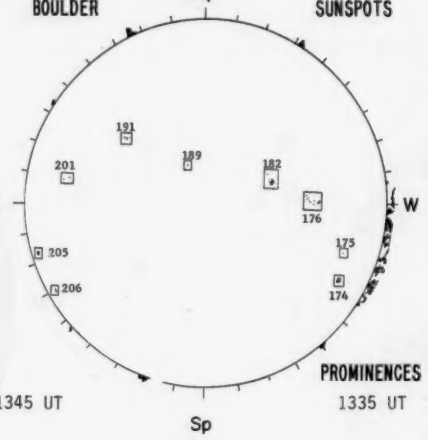
05

BOULDER Np Hα



1335 UT

BOULDER Np SUNSPOTS

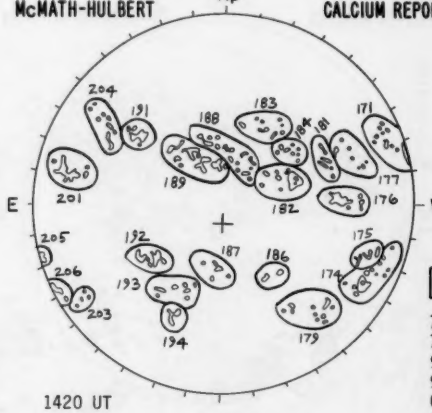


1345 UT

PROMINENCES

1335 UT

McMATH-HULBERT Np CALCIUM REPORT



1420 UT

FAIR	S

71- 2000-2.5
76- 1200-3.0
91- 1000-2.5
92- 1100-2.5
01- 1800-3.0
05- 0800-3.0
06- 1000-3.0

NOSC LA POSTA Np 2.0 CM

NO DATA

E W

SCHEDULE

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

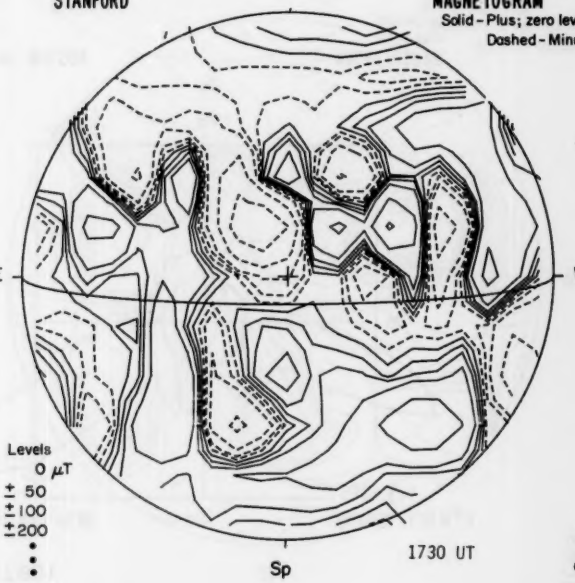
E W

SCHEDULE

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



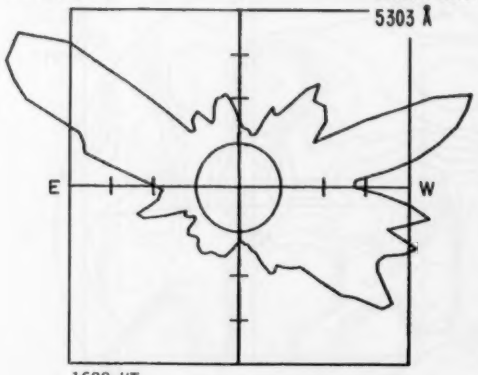
Levels
0 μT
± 50
±100
±200

1730 UT

61
Aug 79

AUGUST 6, 1979 (P=12.55, B_o=6.11, L_o=97.69)

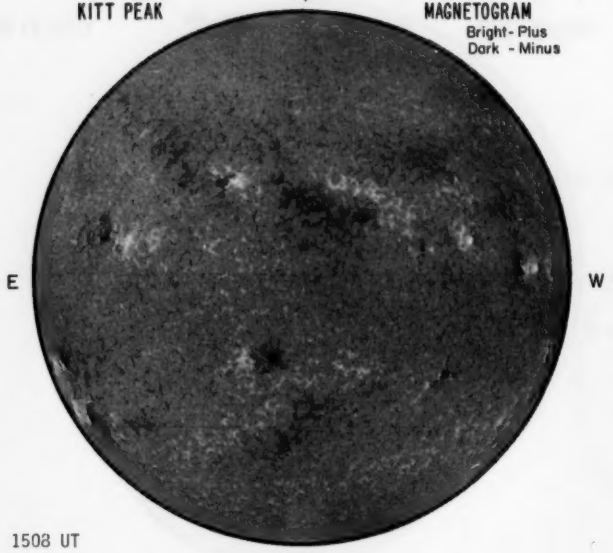
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1600 UT

Sp

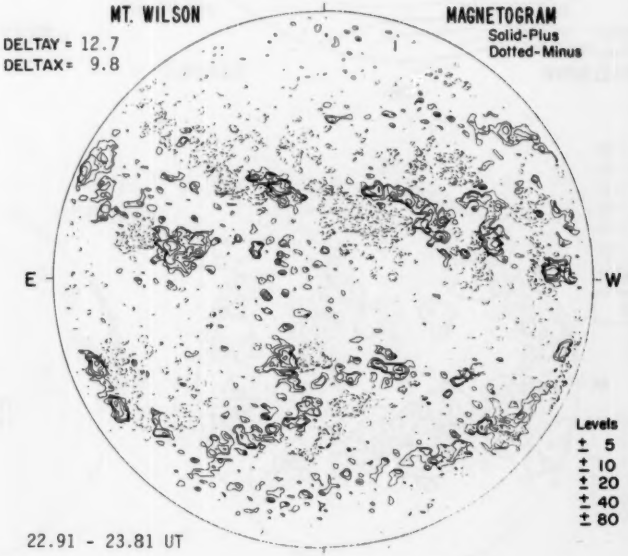
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1508 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.8



22.91 - 23.81 UT

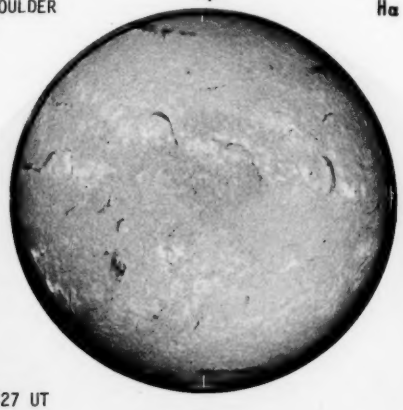
Sp

06

ROULDER Np Hα ROULDER Np SUNSPOTS H-MATH HILBERT Np

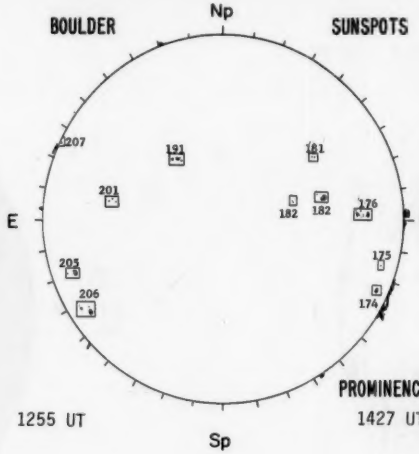
06

BOULDER Np Hα



1427 UT

BOULDER Np SUNSPOTS

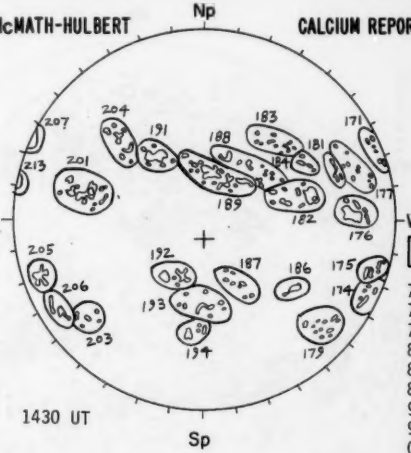


1255 UT

PROMINENCES

1427 UT

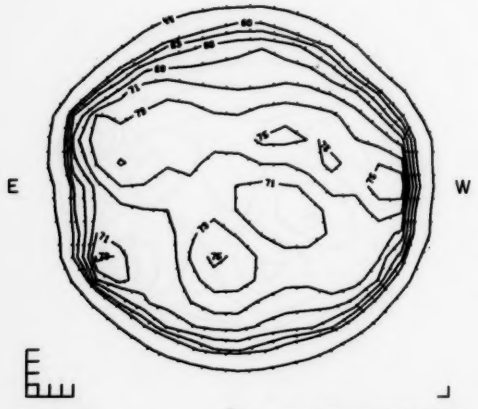
McMATH-HULBERT Np CALCIUM REPORT



GOOD	S
74-	1000-2.5
75-	1000-2.5
76-	1800-3.0
82-	1200-2.5
86-	0300-2.5
89-	1500-2.5
91-	1000-3.0
92-	1000-2.5
01-	1800-3.0
05-	2000-3.0
06-	1600-3.5
07-	1000-3.0

1430 UT

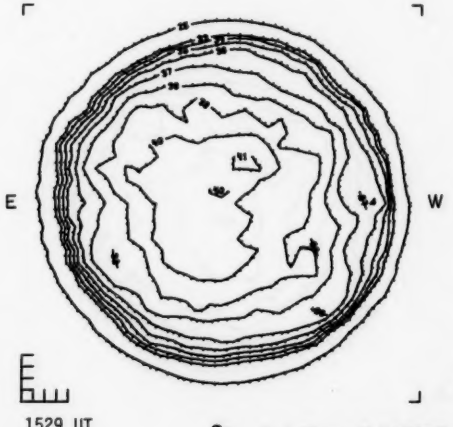
NOSC LA POSTA Np 2.0 CM



1634 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

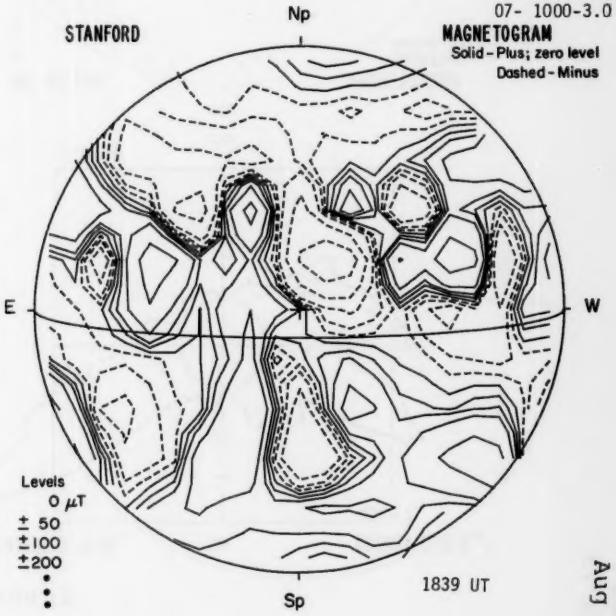


1529 UT

Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus



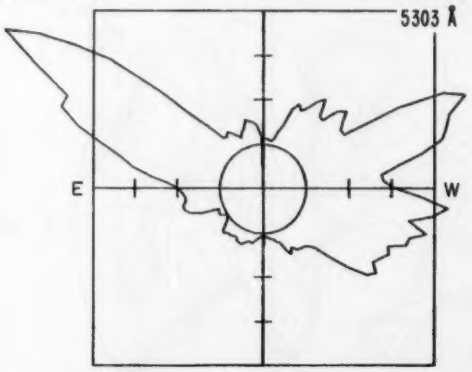
Levels
0 μT
± 50
±100
±200

1839 UT

63
Aug 79

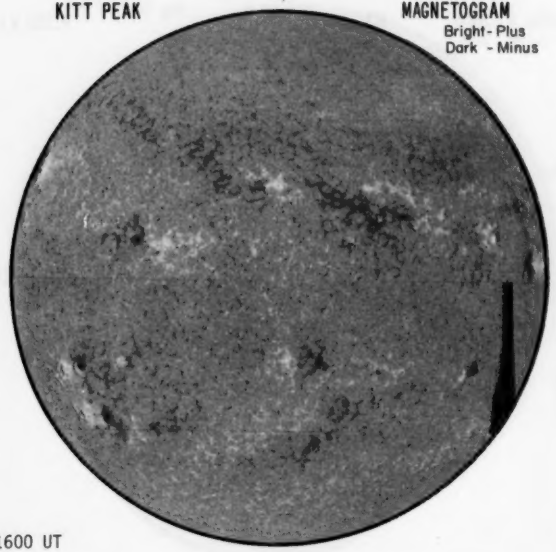
AUGUST 7, 1979 (P = 12.93, B_o = 6.17, L_o = 84.47)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



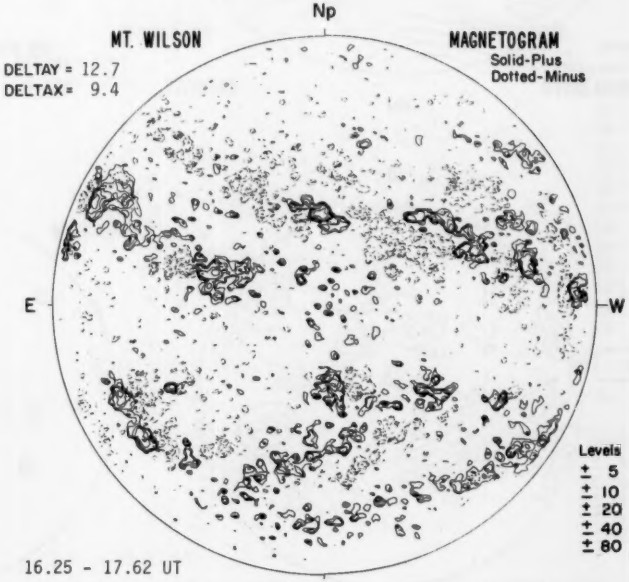
1518 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1600 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



16.25 - 17.62 UT Sp

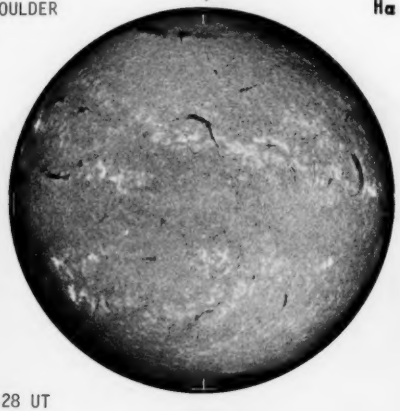
07

BOULDER Np Hα

BOULDER Np SUNSPOTS McMATH-HULBERT Np CALCIUM REPORT

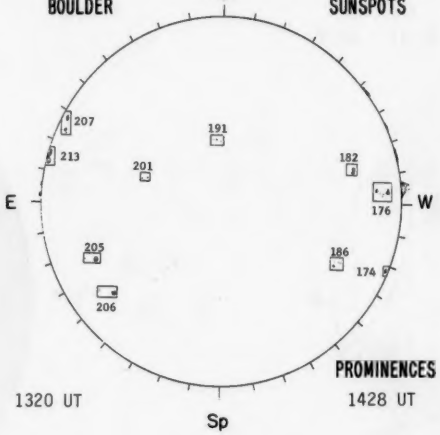
07

BOULDER Np Hα



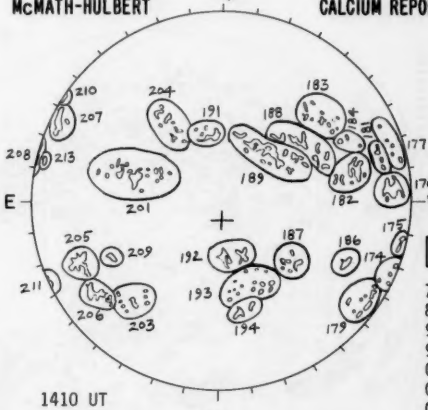
1428 UT

BOULDER Np SUNSPOTS



1320 UT PROMINENCES 1428 UT

McMATH-HULBERT Np CALCIUM REPORT

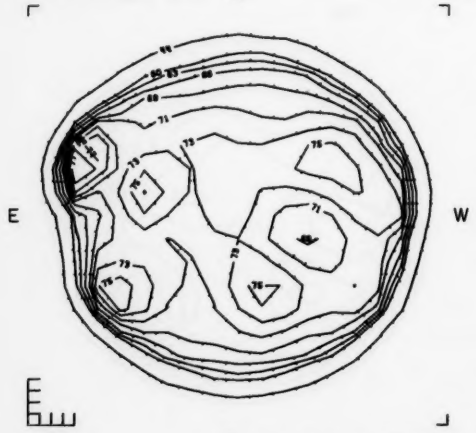


1410 UT

GOOD	S

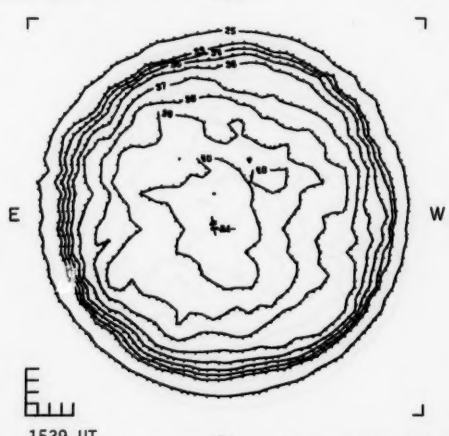
76- 2100-3.0
86- 0500-3.0
91- 1000-2.5
92- 1000-2.5
01- 1600-3.0
05- 2000-3.0
06- 1500-3.0
07- 2200-3.5
08- 1500-3.0

NOSC LA POSTA Np 2.0 CM



1633 UT Ant. Temp. Unit 100° K

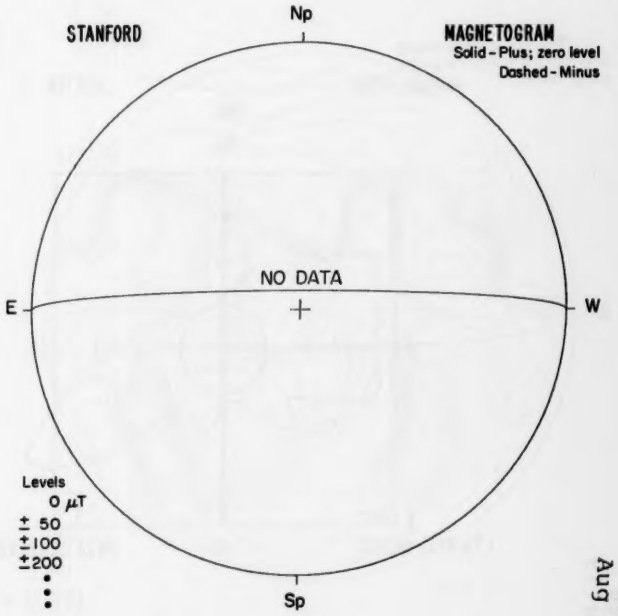
NOSC LA POSTA Np 8.6 MM



1539 UT Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

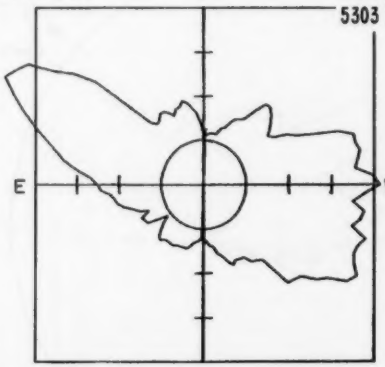


Levels
0 μT
± 50
±100
±200

65
Aug 79

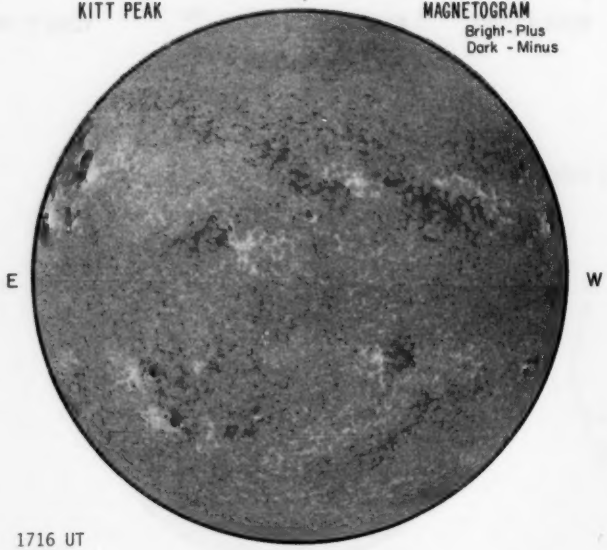
AUGUST 8, 1979 (P = 13.30, B_o = 6.24, L_o = 71.25)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



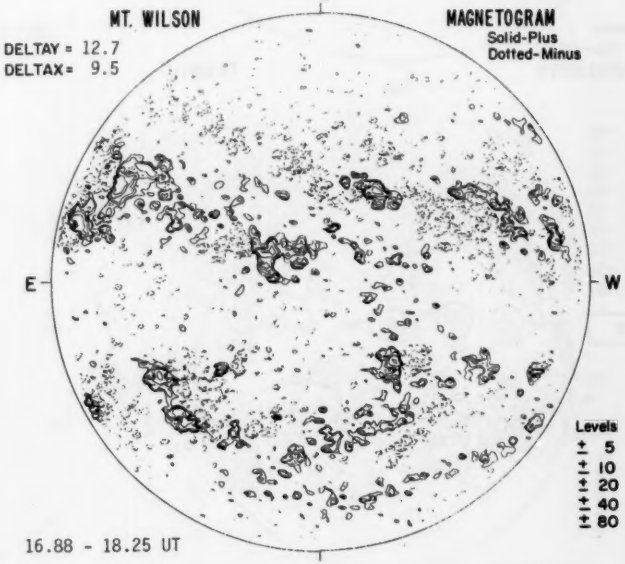
1511 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1716 UT Sp

Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5

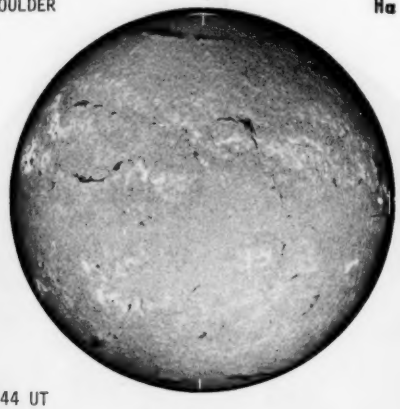


16.88 - 18.25 UT Sp

08

08

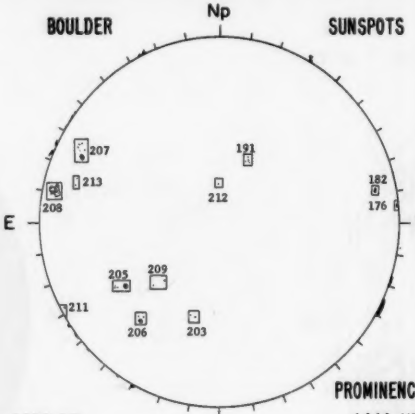
BOULDER Np Hα



E W

1444 UT Sp

BOULDER Np SUNSPOTS



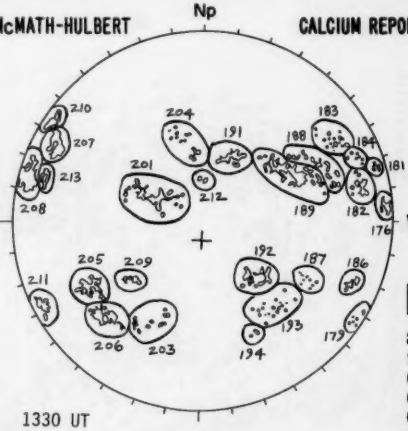
E W

1400 UT Sp

PROMINENCES

1444 UT

McMATH-HULBERT Np CALCIUM REPORT



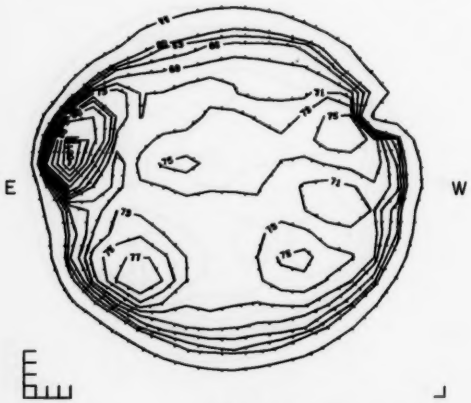
E W

1330 UT Sp

GOOD	M

86- 0500-2.5
91- 0900-2.5
01- 1800-2.5
05- 2000-2.5
06- 1500-2.5
07- 2000-3.0
08- 3800-3.5
11- 1600-2.5

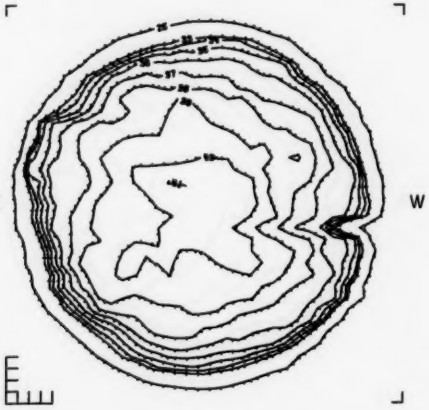
NOSC LA POSTA Np 2.0 CM



E W

1648 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

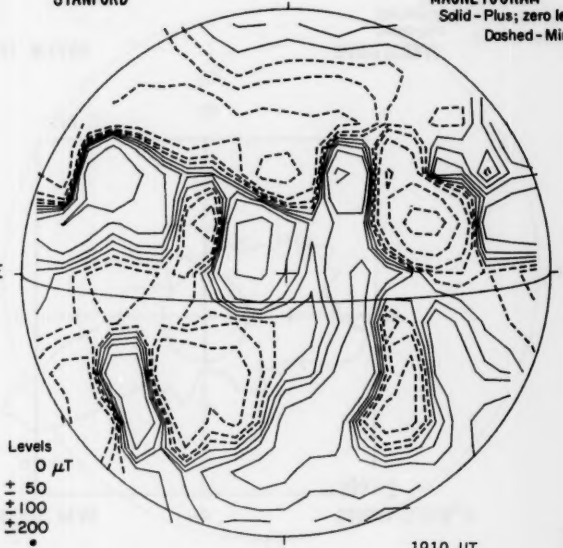


E W

1556 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



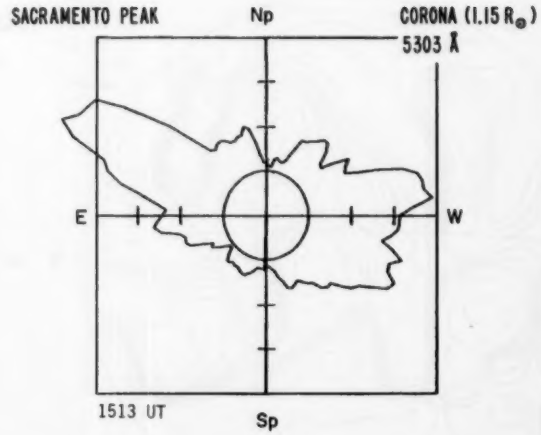
E W

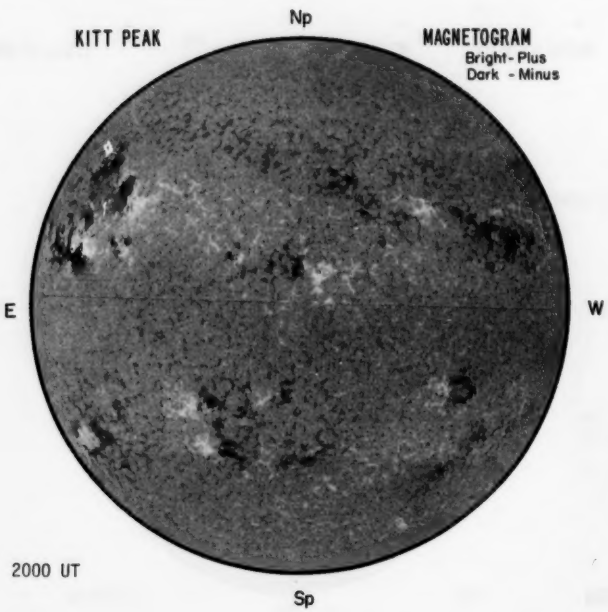
Levels
0 μT
± 50
±100
±200
•
•
•

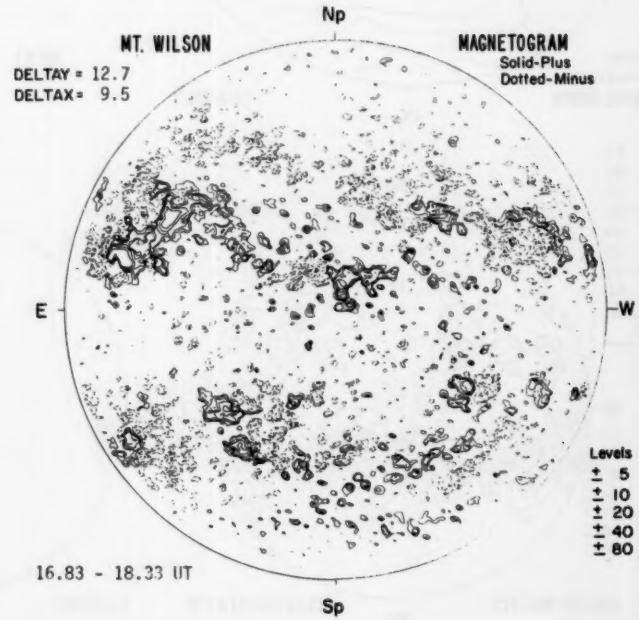
1910 UT Sp

67
Aug 79

AUGUST 9, 1979 (P = 13.67, B_o = 6.30, L_o = 58.02)

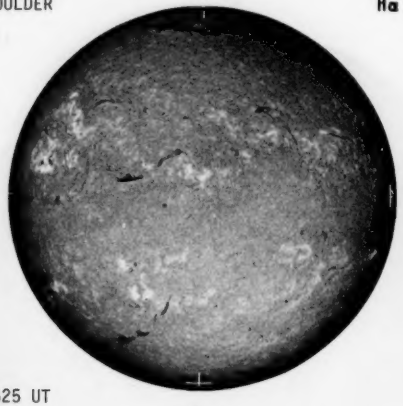






09

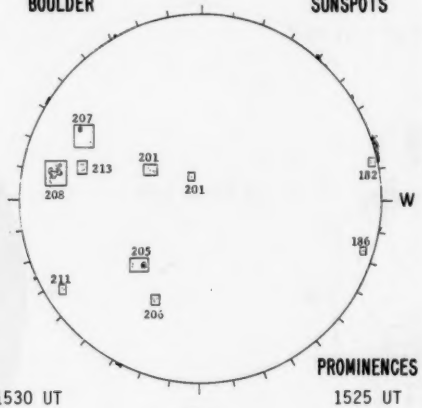
BOULDER Np Hα



E W Sp

1525 UT

BOULDER Np SUNSPOTS

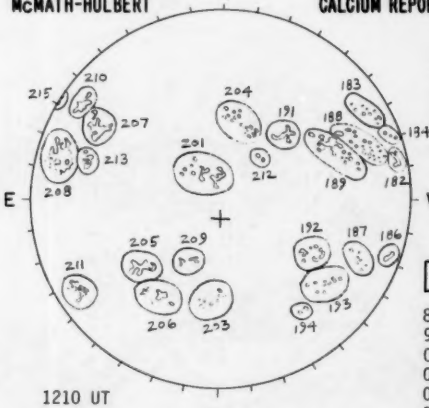


PROMINENCES

E W Sp

1530 UT 1525 UT

McMATH-HULBERT Np CALCIUM REPORT



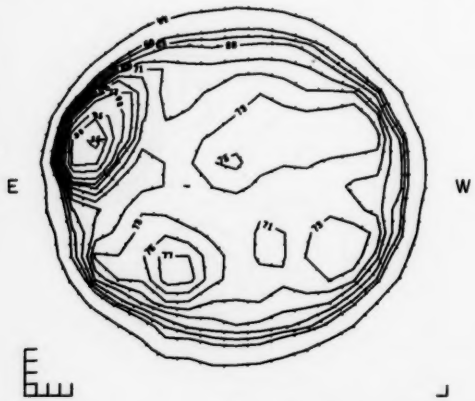
E W Sp

1210 UT

V	POOR	M

86- 0500-3.0
91- 0700-2.5
01- 1600-2.5
06- 1400-2.5
07- 1700-2.5
08- 3800-3.5
11- 1400-2.5

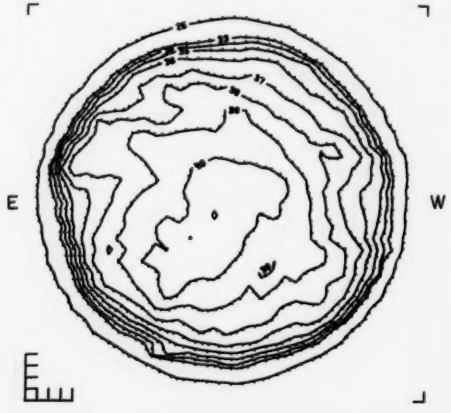
NOSC LA POSTA Np 2.0 CM



E W Sp

1613 UT Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

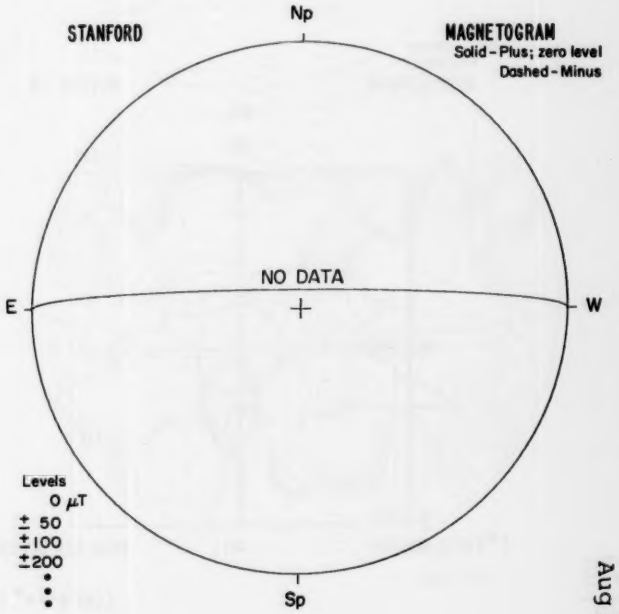


E W Sp

1524 UT Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



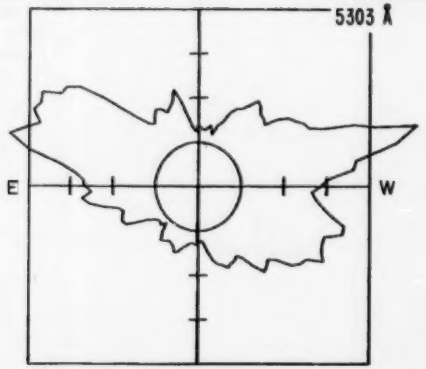
E W Sp

Levels
0 μT
± 50
±100
±200

69
Aug 79

AUGUST 10, 1979 (P = 14.04, B_o = 6.36, L_o = 44.80)

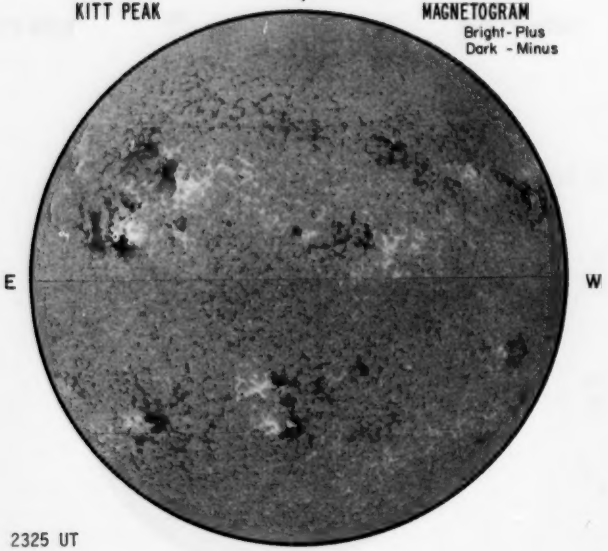
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1529 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



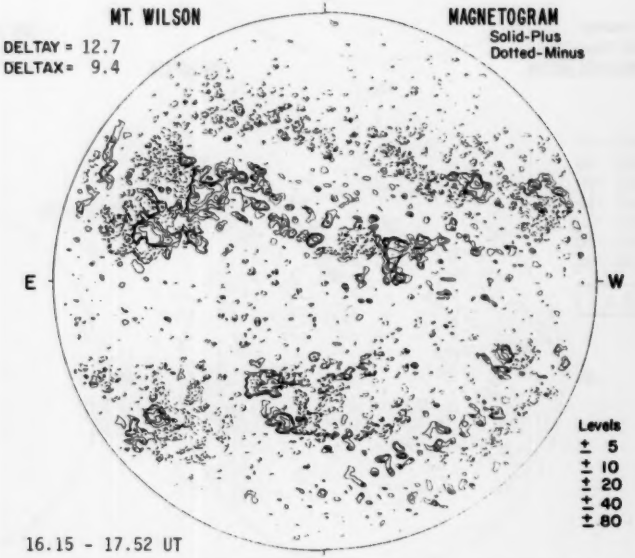
2325 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.4



16.15 - 17.52 UT

Sp

IO

BIG BEAR Np

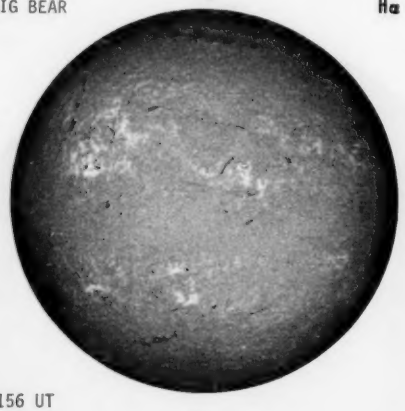
Np

Np

Sp

10

BIG BEAR Np Hα



E W

2156 UT

Sp

BOULDER Np SUNSPOTS

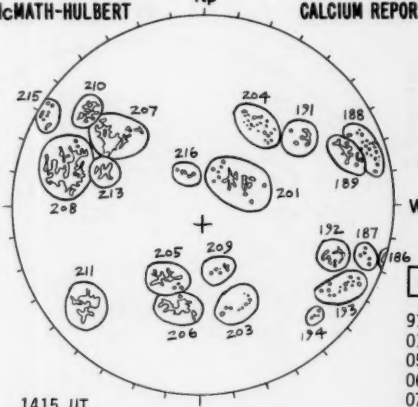
NO DATA

E W

PROMINENCES

Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

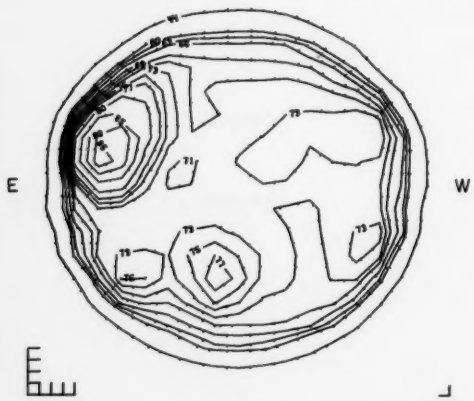
1415 UT

Sp

FAIR	M

91- 0700-2.5
01- 1600-2.5
05- 1100-2.5
06- 1400-2.5
07- 2200-3.0
08- 4200-3.0
11- 1400-2.5

NOSC LA POSTA Np 2.0 CM

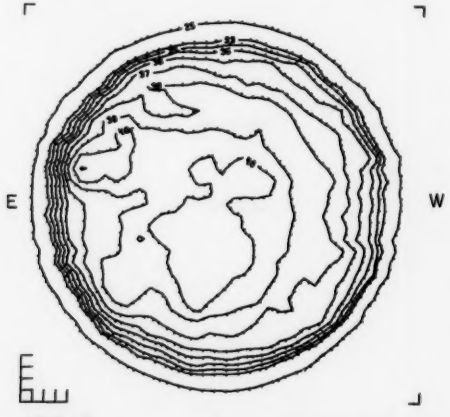


E W

1639 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



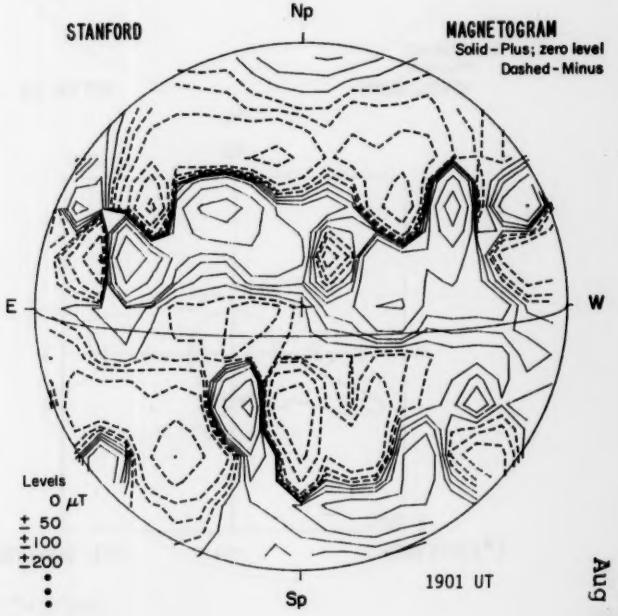
E W

1549 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

Levels
0 μT
± 50
±100
±200
• • •

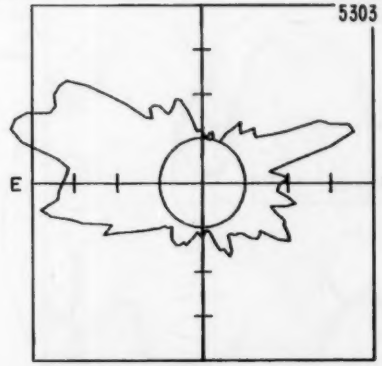
1901 UT

Sp

71
Aug 79

AUGUST 11, 1979 (P = 14.41, B_o = 6.41, L_o = 31.58)

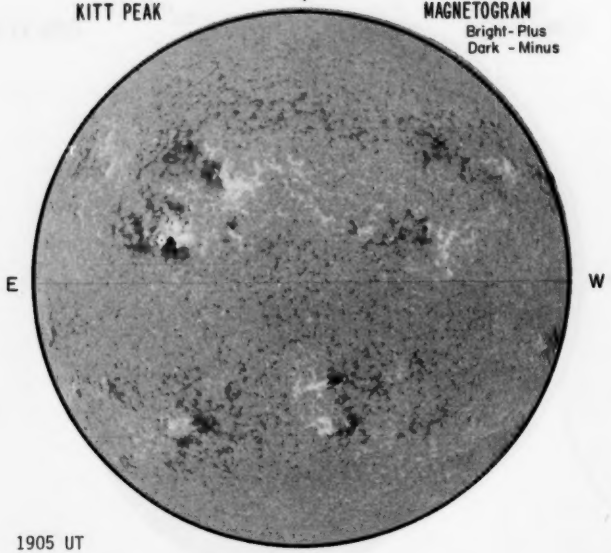
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1635 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

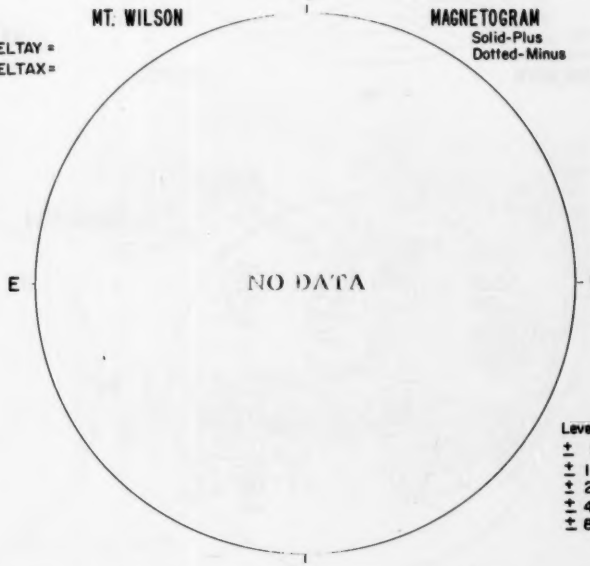


1905 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

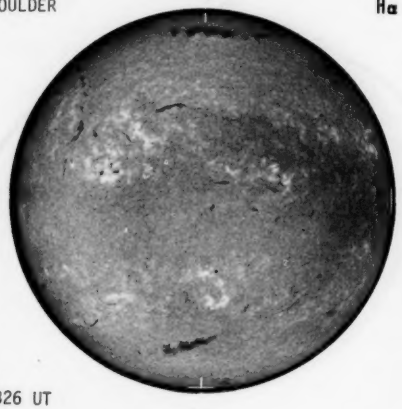
DELTAY =
DELTAX =



Levels
+ 5
+ 10
+ 20
+ 40
+ 80

Sp

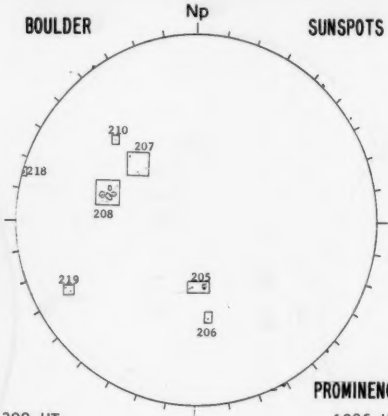
BOULDER Np Hα



E W

1326 UT Sp

BOULDER Np SUNSPOTS

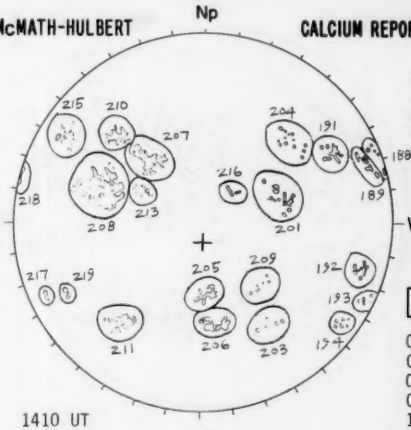


E W

1300 UT Sp

PROMINENCES 1326 UT

McMATH-HULBERT Np CALCIUM REPORT



E W

1410 UT Sp

FAIR	M

05- 1100-2.5
06- 1400-2.5
07- 2500-2.5
08- 4200-3.0
11- 1400-2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

NO DATA

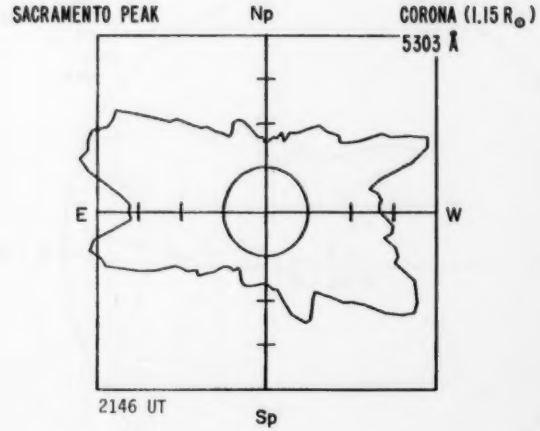
E W

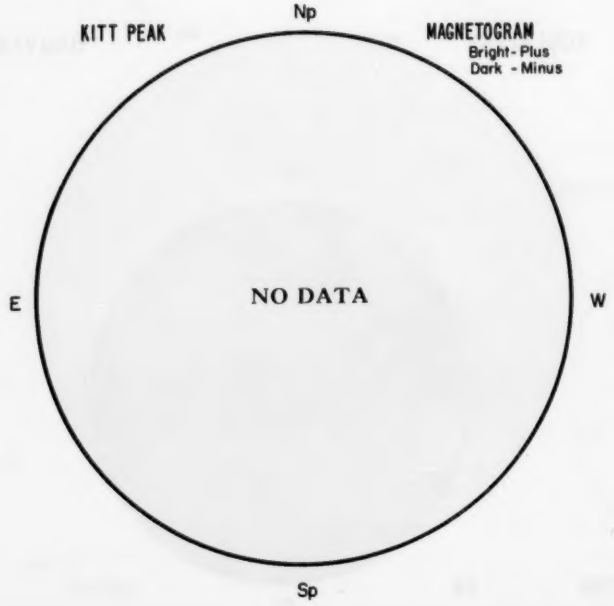
Sp

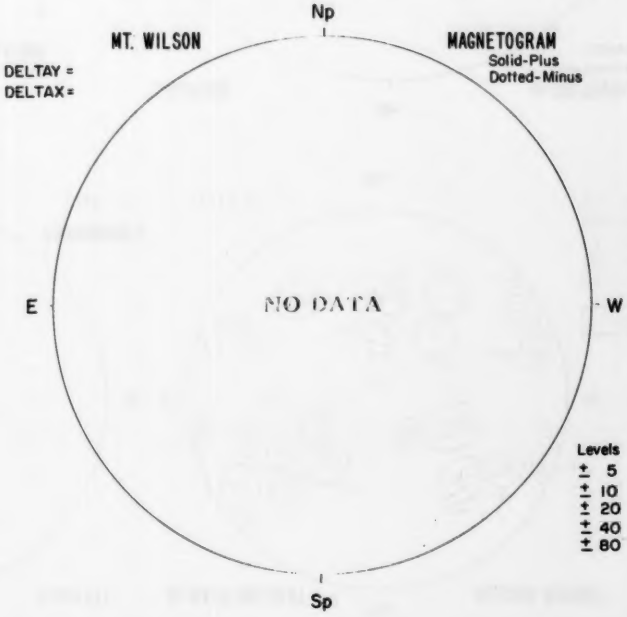
Levels
0 μT
± 50
±100
±200

73
Aug 79

AUGUST 12, 1979 ($P = 14.76$, $B_o = 6.47$, $L_o = 18.36$)

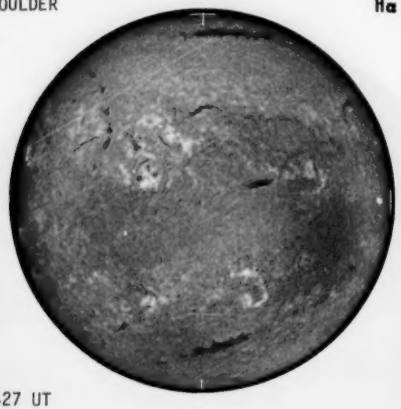






12

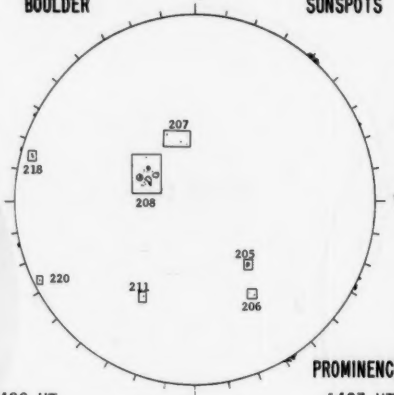
BOULDER Np Hα



E W

1427 UT Sp

BOULDER Np SUNSPOTS

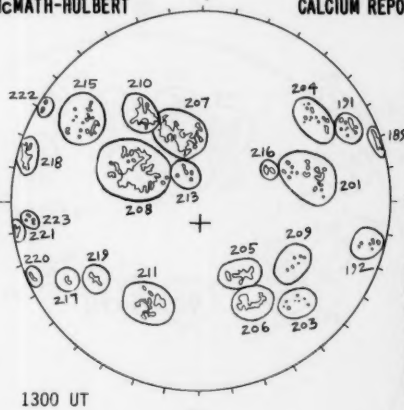


E W

PROMINENCES

1420 UT 1427 UT Sp

McMATH-HULBERT Np CALCIUM REPORT



E W

1300 UT Sp

FAIR	M

91- 0700-2.5
05- 1000-3.0
06- 1300-3.0
07- 2500-3.0
08- 4000-3.5
11- 1500-2.5
18- 1800-2.5
21- 0500-2.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

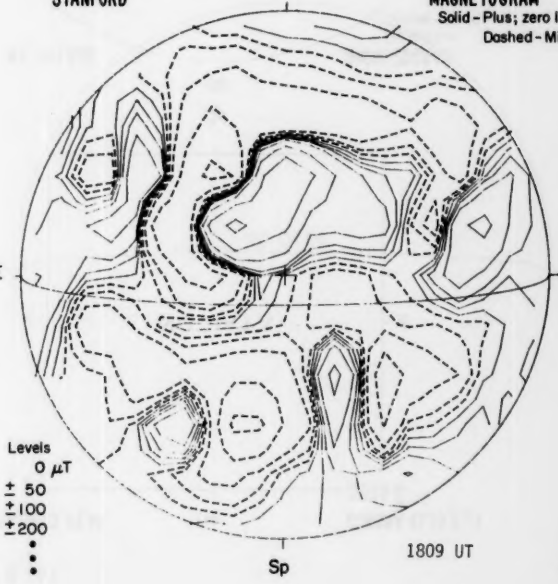
NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



E W

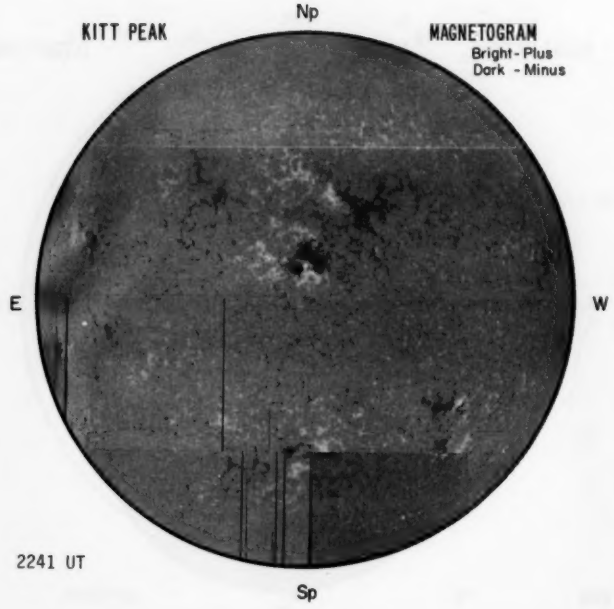
Levels
0 μT
± 50
±100
±200

1809 UT Sp

75 Aug 79

AUGUST 13, 1979 (P=15.12, B_o=6.52, L_o=5.14)

SACRAMENTO PEAK
Np
CORONA (1.15 $R_\odot$)
5303 Å
E
NO DATA
W
Sp



MT. WILSON
Np
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =
E
NO DATA
W
Levels
± 5
± 10
± 20
± 40
± 80
Sp

Sp

Sp

13

Np

Hα

NO DATA

E W

Sp

Np

BOULDER SUNSPOTS

NO DATA

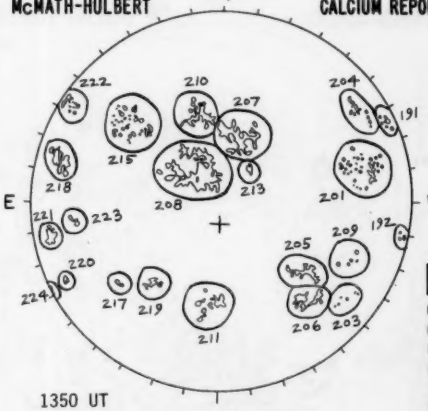
E W

PROMINENCES

Sp

Np

McMATH-HULBERT CALCIUM REPORT



1350 UT

Sp

GOOD	M
05- 1000-2.5	
06- 1200-2.5	
07- 2400-2.5	
08- 4000-3.0	
18- 1700-2.5	
21- 1300-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

Np

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Sp

Levels

0 μT

± 50

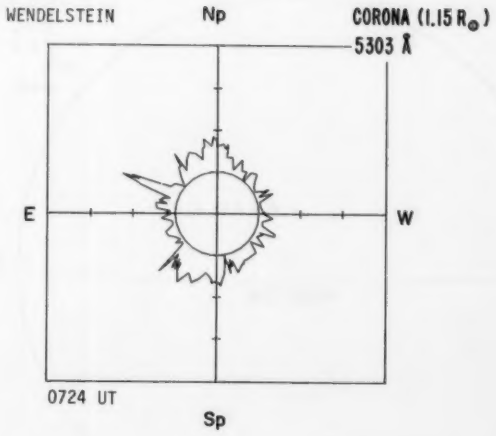
±100

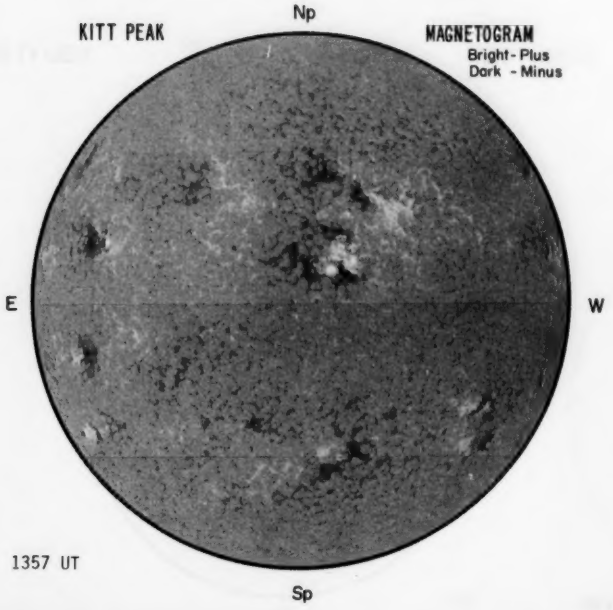
±200

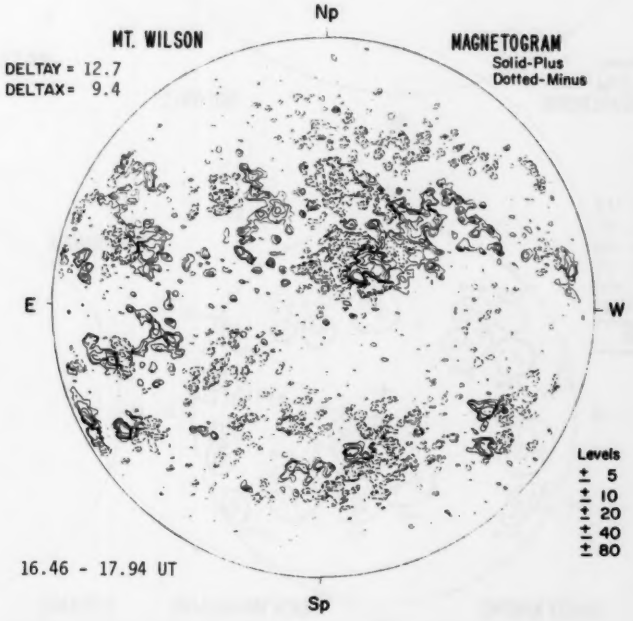
77

Aug 79

AUGUST 14, 1979 (P = 15.47, B_o = 6.58, L_o = 351.92)







1357 UT

Sp

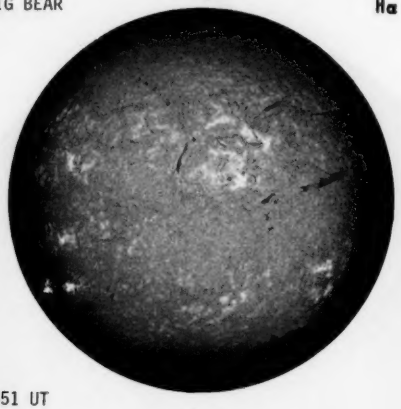
Sp

14

BIG BEAR

Np

Hα



E

W

1851 UT

Sp

BOULDER

Np

SUNSPOTS

NO DATA

E

W

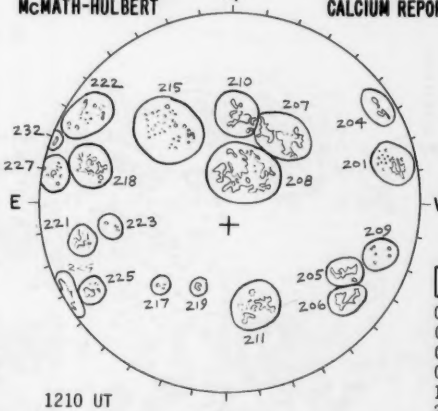
PROMINENCES

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1210 UT

Sp

GOOD	M
05- 1000-2.5	
06- 1000-2.5	
07- 2500-2.5	
08- 4000-3.0	
18- 1600-2.5	
21- 1100-2.5	
24- 4000-4.0	
25- 0700-3.5	

NOSC LA POSTA

Np

2.0 CM

NO DATA

EQUIPMENT

E

W

---- UT

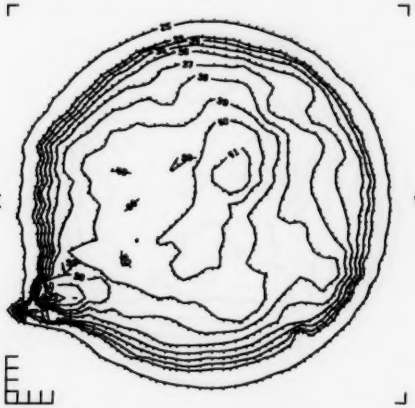
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1610 UT

Sp

Ant. Temp. Unit 100° K

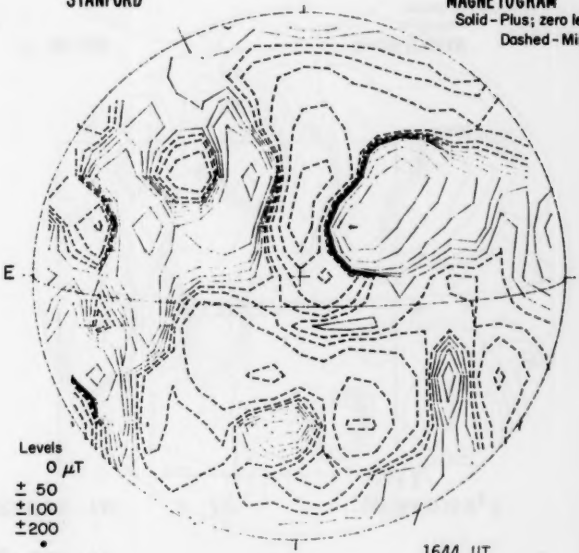
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

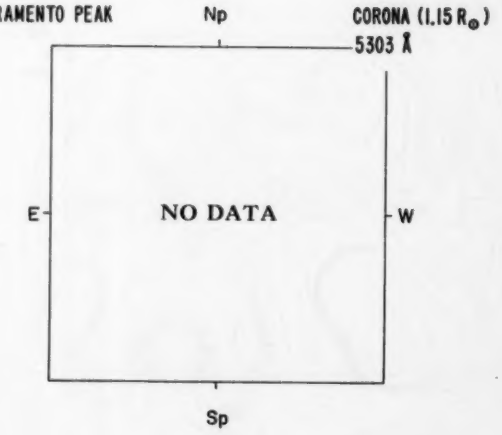
1644 UT

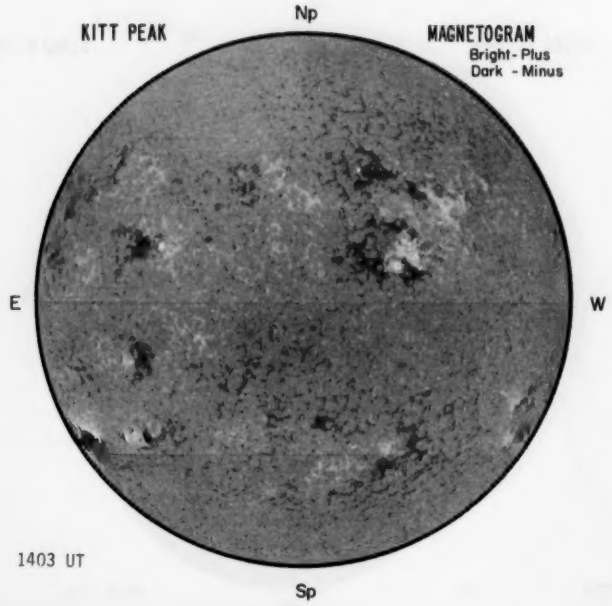
Sp

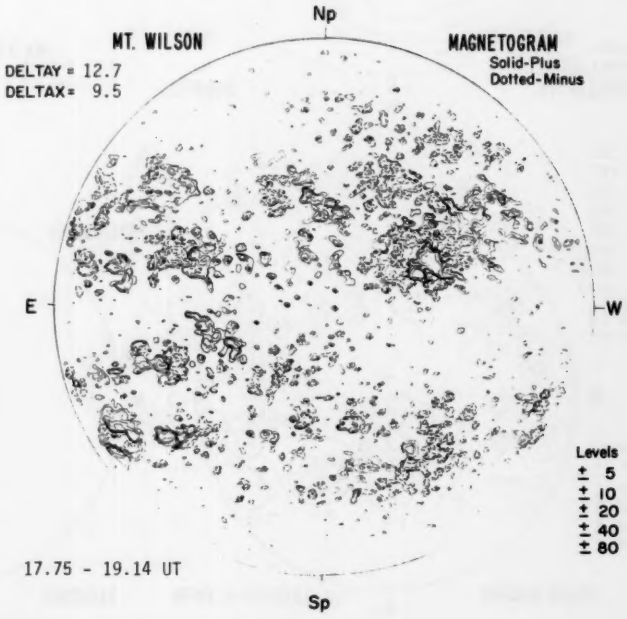
79 Aug 79

AUGUST 15, 1979 (P = 15.81, B_o = 6.63, L_o = 338.70)

SACRAMENTO PEAK







1403 UT

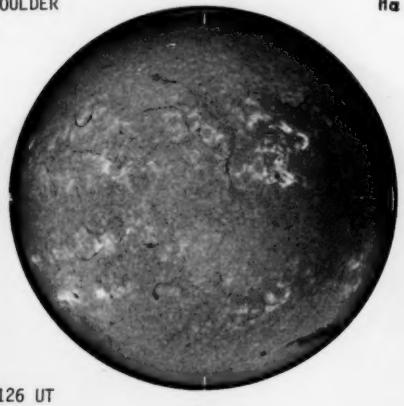
Sp

17.75 - 19.14 UT

Sp

15

BOULDER Np Hα

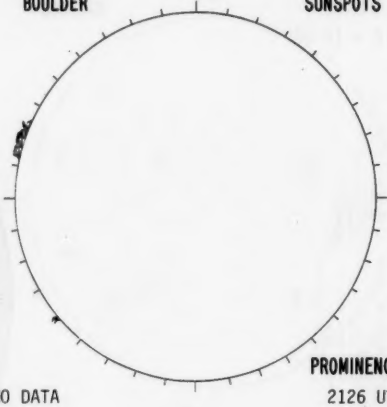


E W

2126 UT

Sp

BOULDER Np SUNSPOTS



E W

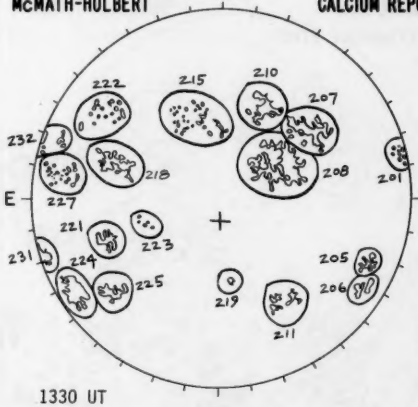
PROMINENCES

NO DATA

2126 UT

Sp

McMATH-HULBERT Np CALCIUM REPORT



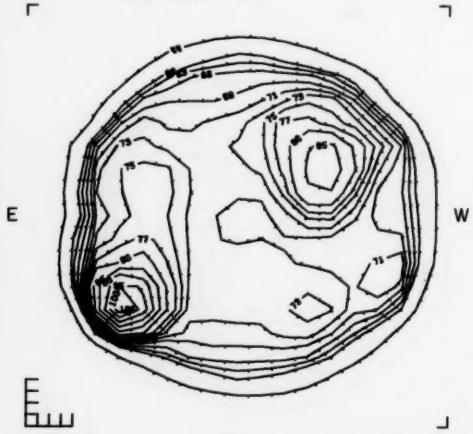
E W

1330 UT

Sp

GOOD	M
05- 0900-2.5	
07- 2700-2.5	
08- 4000-3.0	
21- 1100-2.5	
24- 5000-4.0	
25- 1400-3.0	
31- 2400-3.0	
32- 1200-2.5	

NOSC LA POSTA Np 2.0 CM

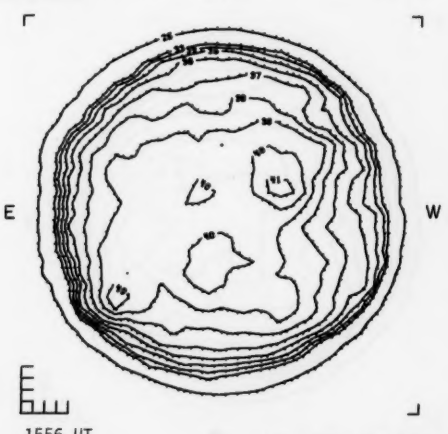


E W

1652 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

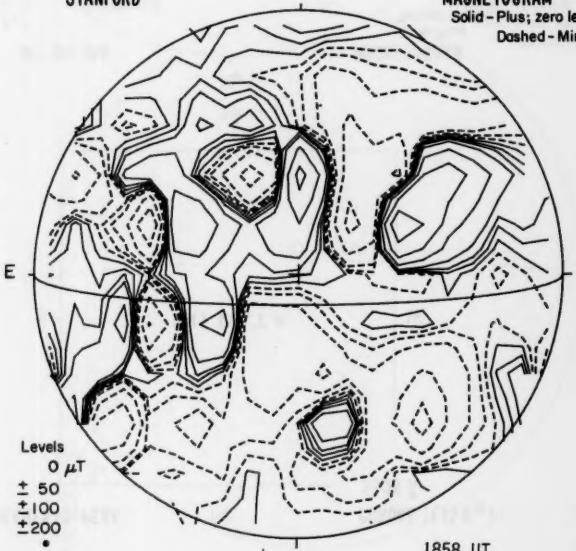
1556 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1858 UT

Sp

81

Aug 79

AUGUST 16, 1979 (P = 16.16, B_o = 6.67, L_o = 325.48)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1559 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.7

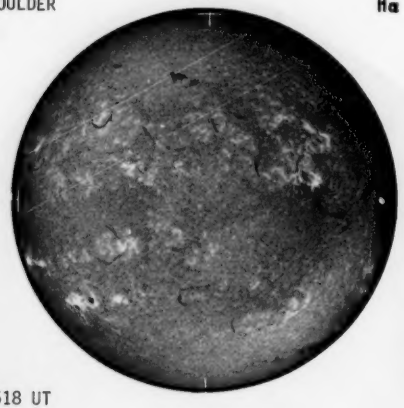
E W

Levels
± 5
± 10
± 20
± 40
± 80

21.31 - 22.18 UT (DATA INCOMPLETE)

Sp

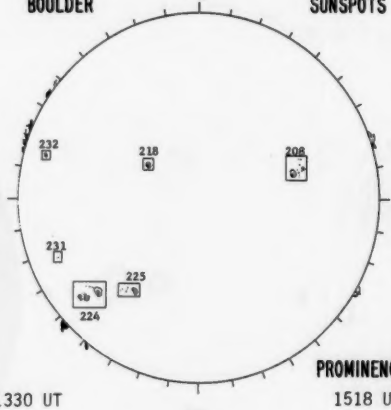
BOULDER Np Hα



E W

1518 UT Sp

BOULDER Np SUNSPOTS

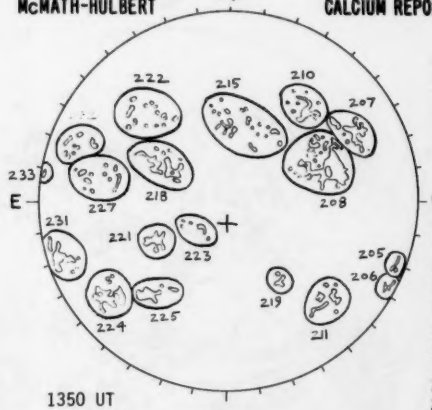


E W

PROMINENCES

1330 UT Sp 1518 UT

McMATH-HULBERT Np CALCIUM REPORT

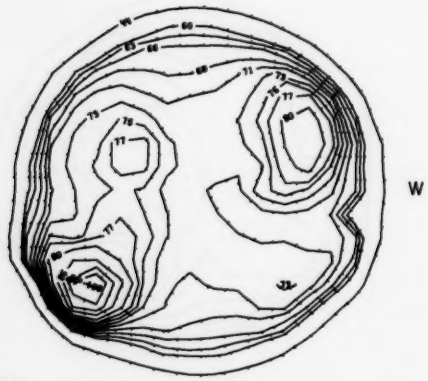


E W

1350 UT Sp

GOOD	S
05- 0800-2.5	
06- 0800-2.5	
07- 2700-3.0	
08- 4000-3.5	
11- 1200-2.5	
18- 1600-3.0	
21- 1100-2.5	
24- 4800-3.5	
25- 1500-3.0	
31- 3500-3.5	
33- 0300-2.5	

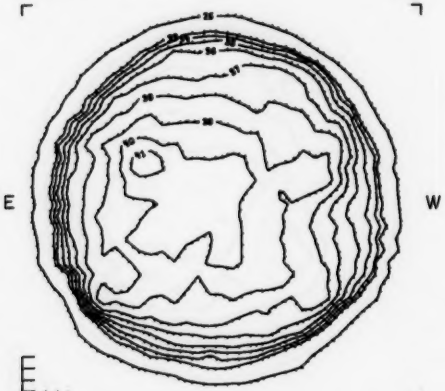
NOSC LA POSTA Np 2.0 CM



E W

1608 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



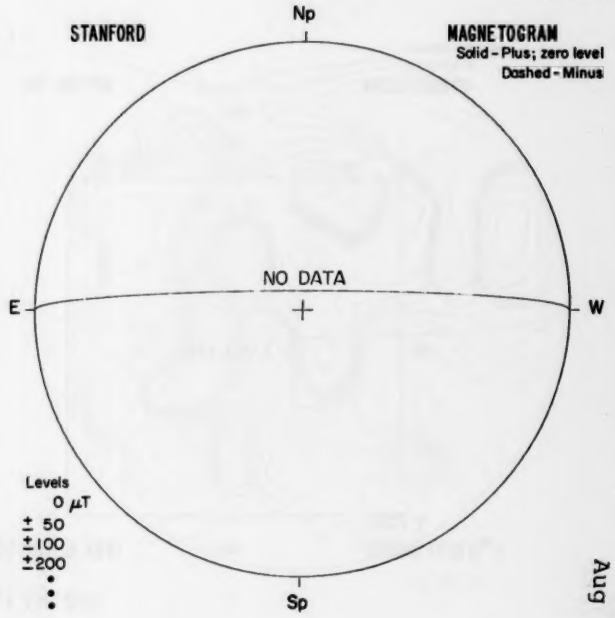
E W

1512 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

Sp

83 Aug 79

AUGUST 17, 1979 (P = 16.49, B_o = 6.72, L_o = 312.26)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

W

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

1431 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5

E

W

Levels
± 5
± 10
± 20
± 40
± 80

16.09 - 17.57 UT

Sp

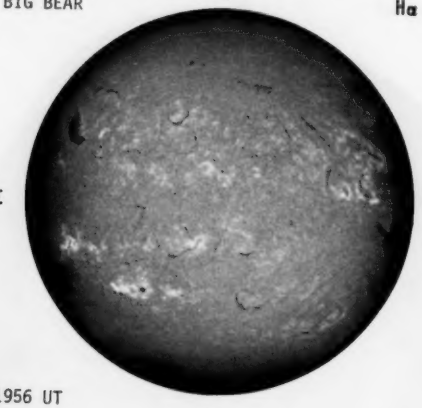
Sp

Sp

BIG BEAR

Np

Hα



E

W

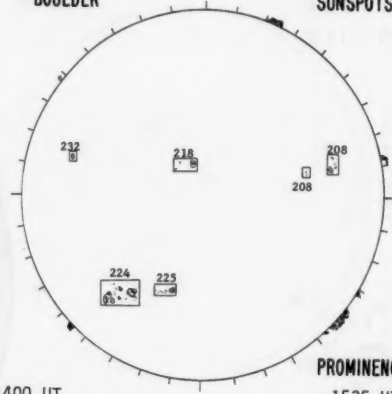
1956 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1400 UT

Sp

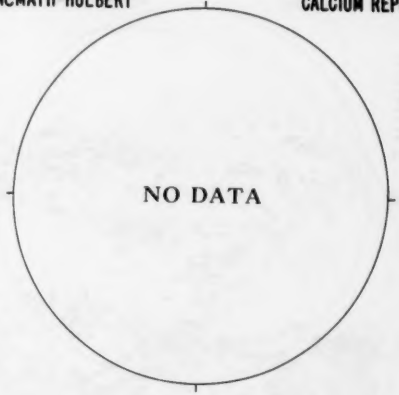
PROMINENCES

1535 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

Sp

NOSC LA POSTA

Np

2.0 CM

E

W

1646 UT

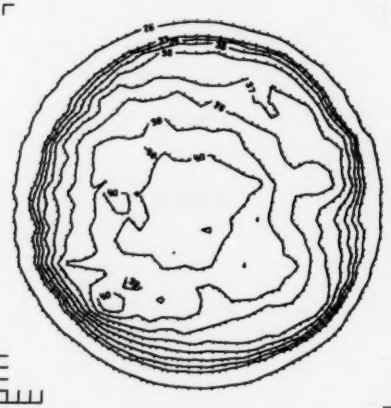
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1550 UT

Sp

Ant. Temp. Unit 100° K

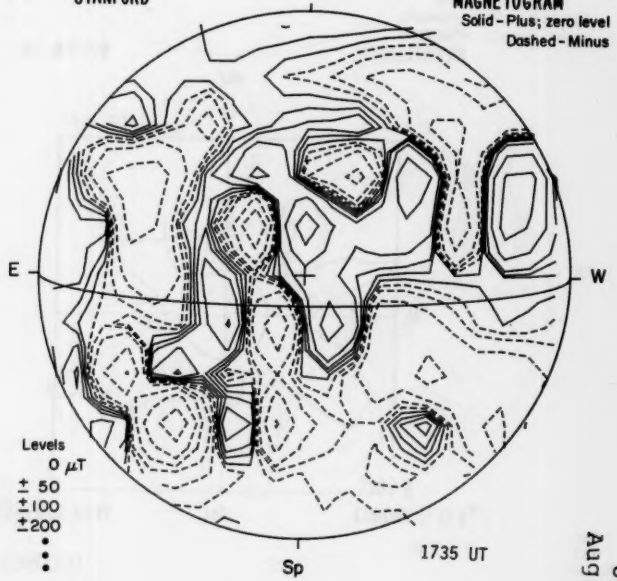
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

± 100

± 200

1735 UT

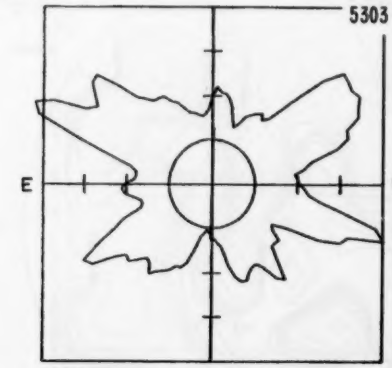
Sp

85

Aug 79

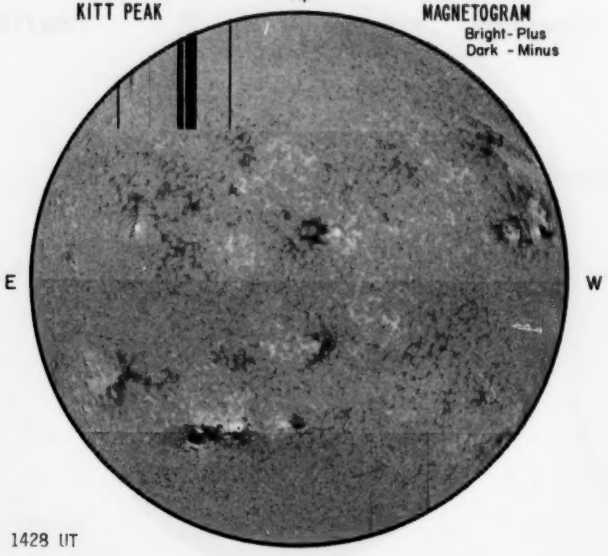
AUGUST 18, 1979 (P = 16.82, B_o = 6.77, L_o = 299.05)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



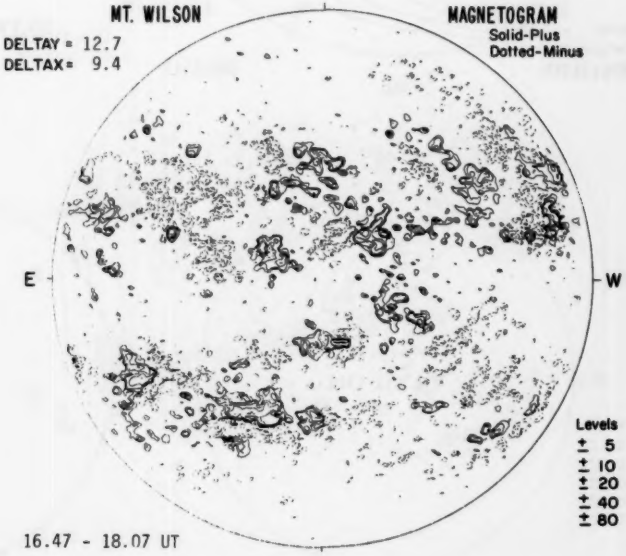
1702 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1428 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



16.47 - 18.07 UT Sp

1428 UT

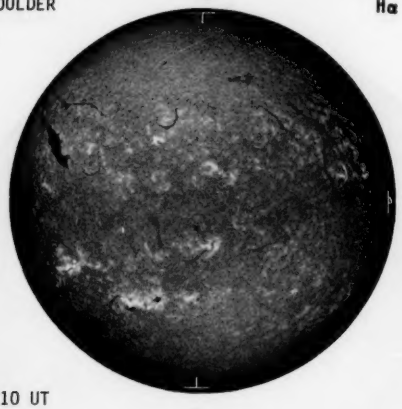
Sp

16.47 - 18.07 UT

Sp

18

BOULDER Np Hα

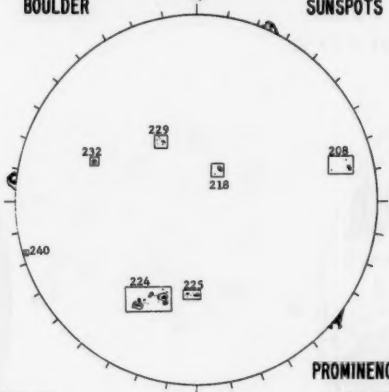


E W

1510 UT

Sp

BOULDER Np SUNSPOTS



E W

1410 UT

Sp

PROMINENCES

1510 UT

McMATH-HULBERT Np CALCIUM REPORT

NO DATA

E W

Sp

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

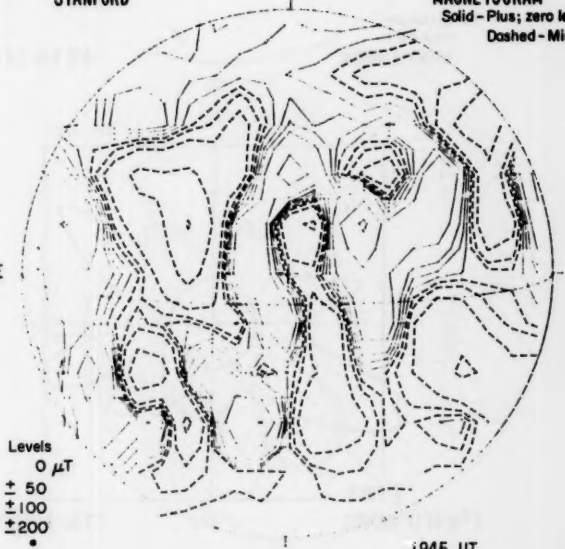
---- UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

•

•

•

1945 UT

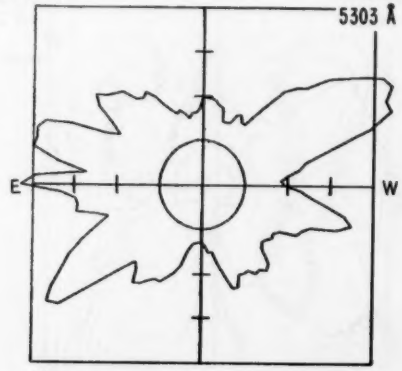
Sp

87

Aug 79

AUGUST 19, 1979 (P = 17.15, B_o = 6.81, L_o = 285.83)

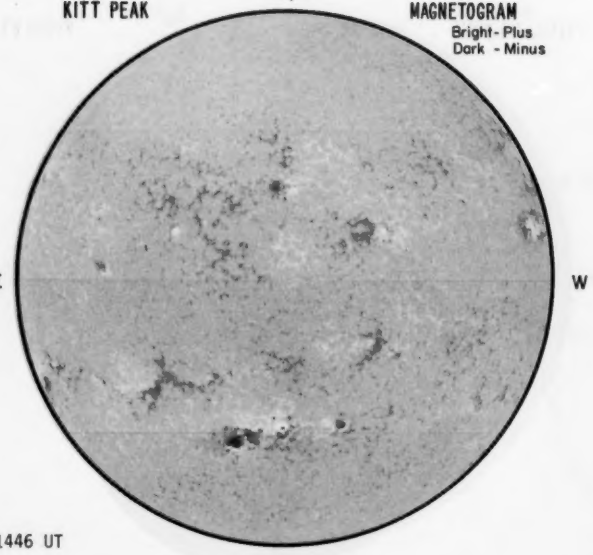
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1745 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



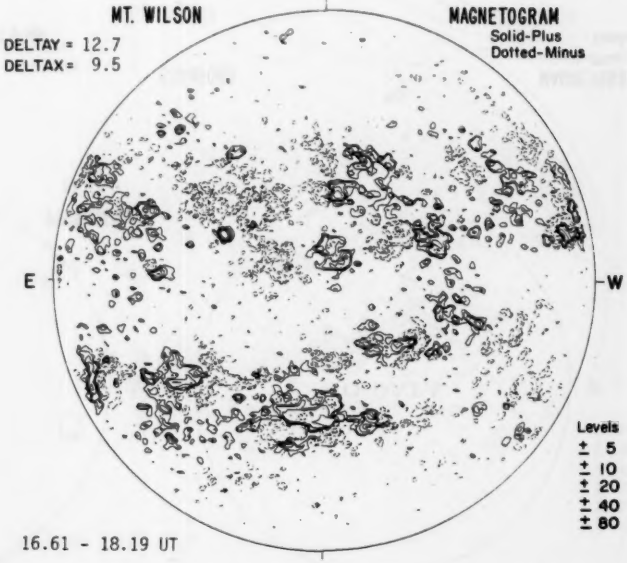
1446 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5



16.61 - 18.19 UT

Sp

1446 UT

Sp

16.61 - 18.19 UT

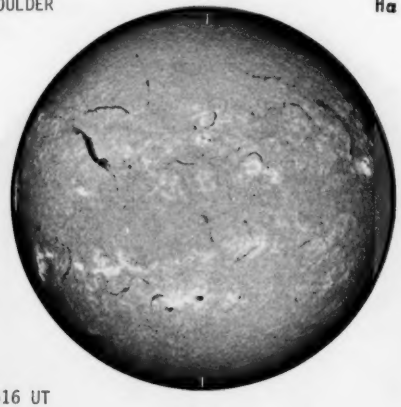
Sp

19

BOULDER

Np

Hα



E W

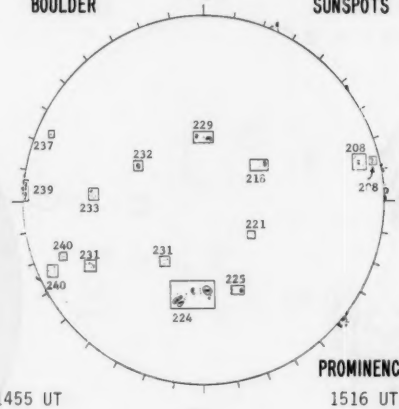
1516 UT

Sp

BOULDER

Np

SUNSPOTS



E W

PROMINENCES

1455 UT

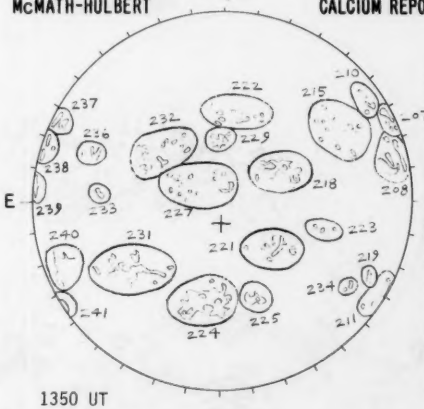
Sp

1516 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E W

1350 UT

Sp

FAIR	S
08-	4000-3.5
18-	1800-2.5
21-	1000-2.5
24-	4600-3.0
25-	0800-2.5
29-	0600-2.5
31-	3000-3.0
33-	0200-2.5
37-	1000-3.0
39-	1700-3.5
40-	2800-3.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

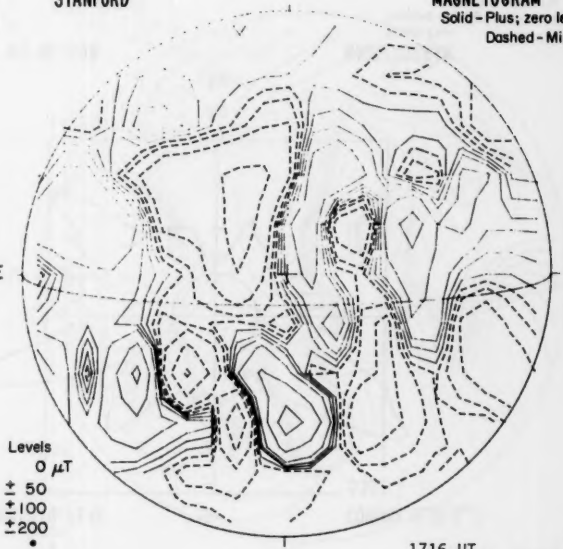
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

1716 UT

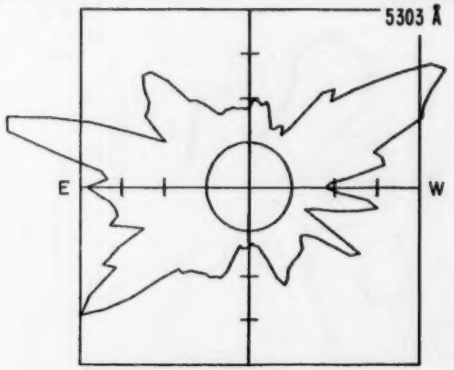
Sp

89

Aug 79

AUGUST 20, 1979 (P = 17.47, B_o = 6.85, L_o = 272.61)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

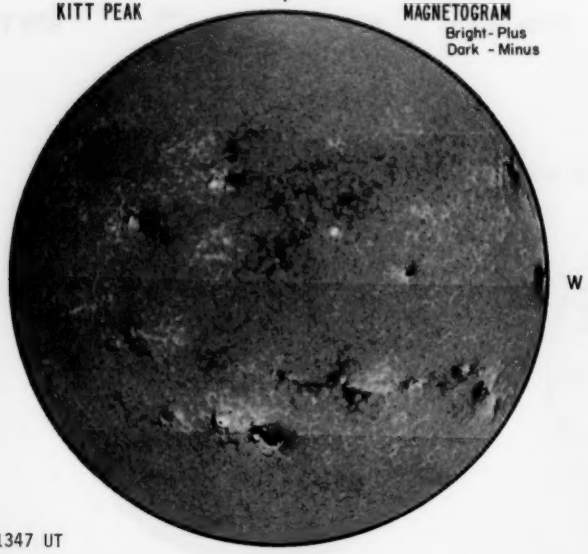


1632 UT

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus

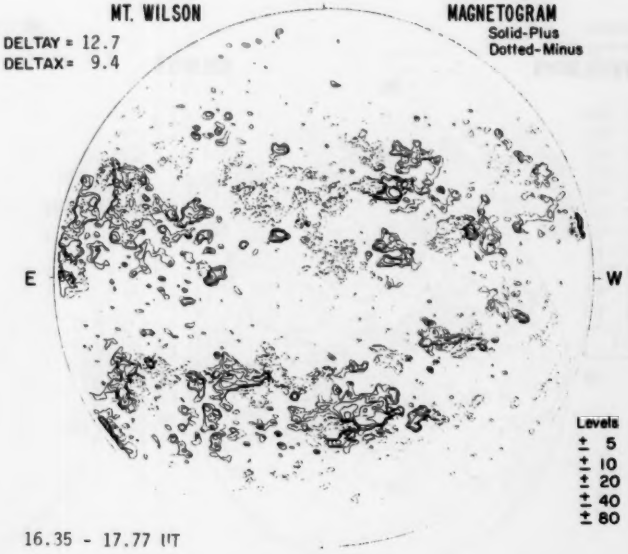


1347 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



16.35 - 17.77 UT

Sp

1347 UT

Sp

16.35 - 17.77 UT

Sp

20

BIG BEAR

Np

Hα

E

W

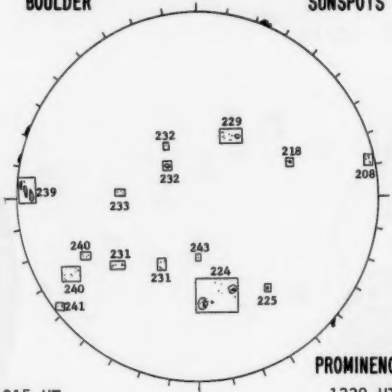
2203 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1315 UT

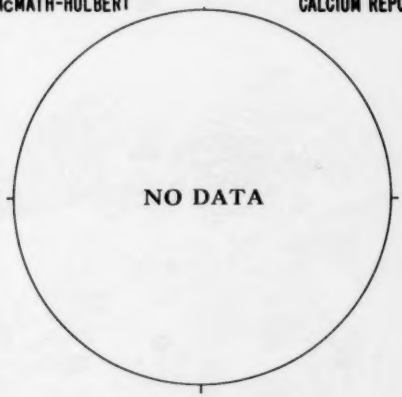
Sp

1330 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

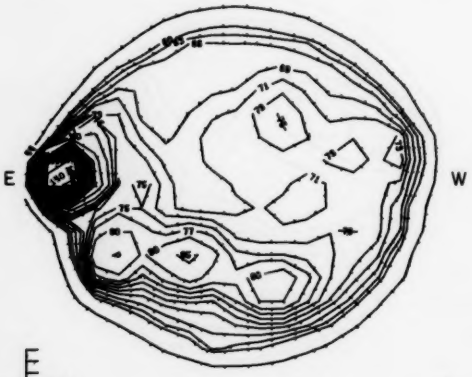
W

Sp

NOSC LA POSTA

Np

2.0 CM



E

W

1618 UT

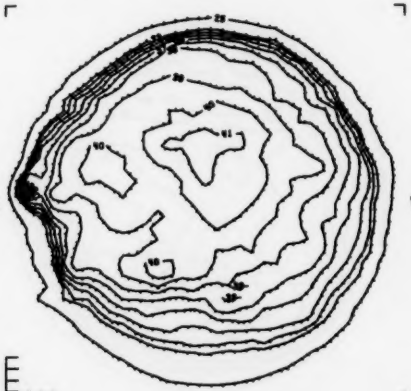
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1523 UT

Sp

Ant. Temp. Unit 100° K

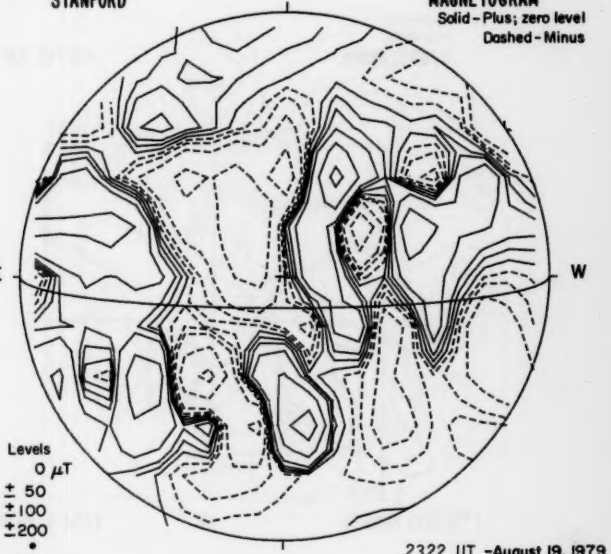
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

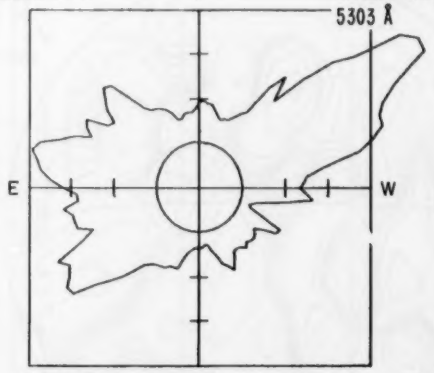
Sp

2322 UT -August 19, 1979

Aug 79

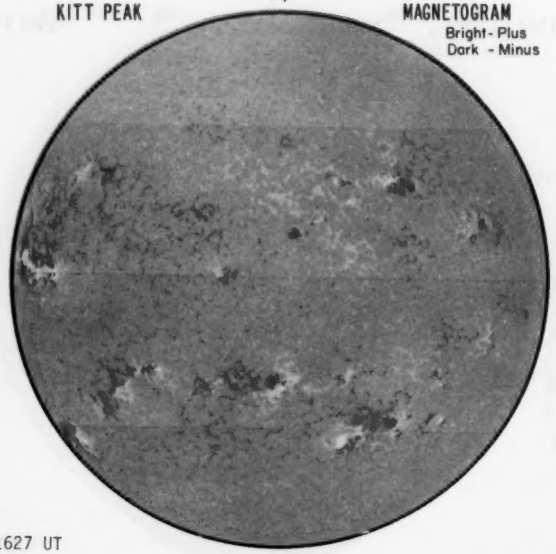
AUGUST 21, 1979 (P = 17.79, B_o = 6.89, L_o = 259.40)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



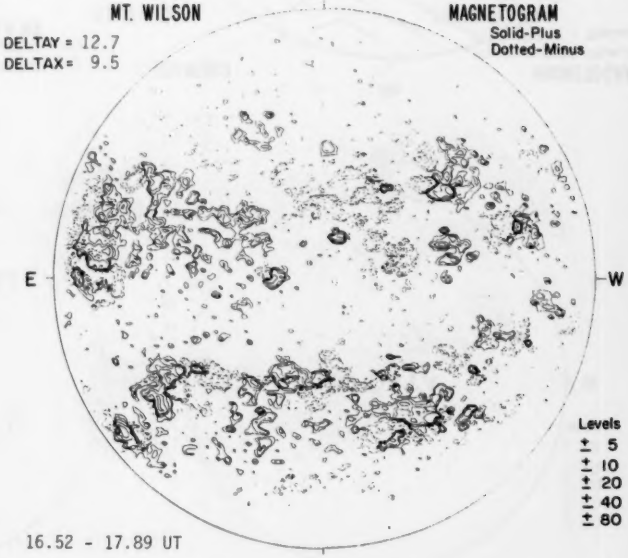
1456 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1627 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid - Plus
Dotted - Minus
DELTAY = 12.7
DELTAX = 9.5



16.52 - 17.89 UT Sp

1627 UT

Sp

16.52 - 17.89 UT

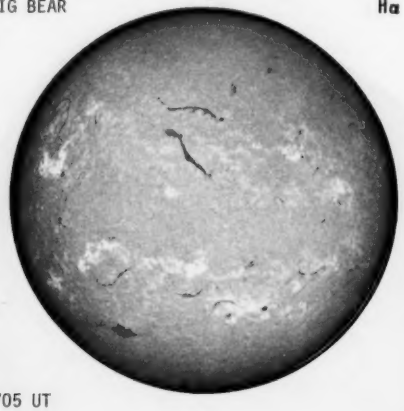
Sp

21

BIG BEAR

Np

Hα



E

W

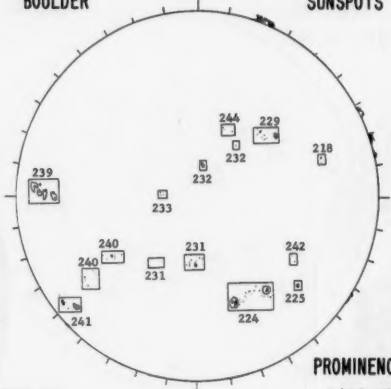
1705 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1320 UT

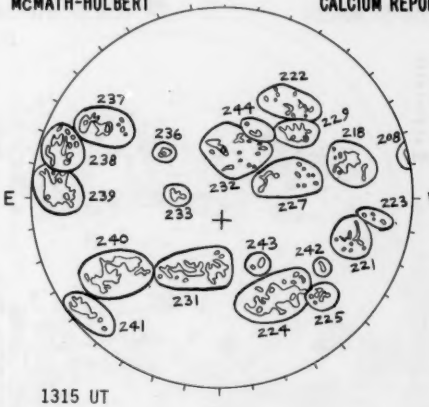
1416 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1315 UT

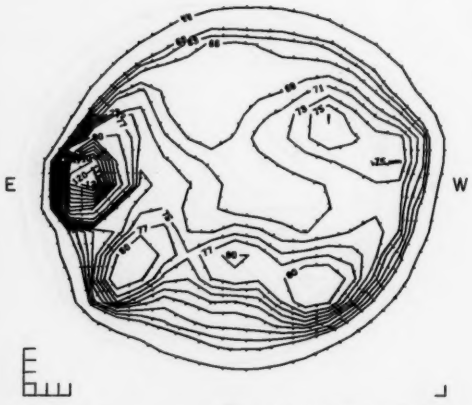
Sp

GOOD	S
08- 0600-2.5	
18- 1600-3.0	
21- 1000-2.5	
24- 4800-3.5	
29- 1400-3.0	
31- 3000-3.0	
33- 0500-3.0	
37- 2000-2.5	
38- 3000-2.0	
39- 6000-3.5	
40- 5200-3.5	
41- 2400-3.5	
42- 0400-2.5	
44- 0300-2.5	

NOSC LA POSTA

Np

2.0 CM



E

W

1517 UT

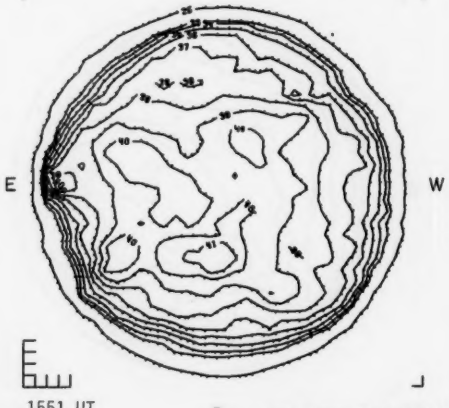
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1551 UT

Sp

Ant. Temp. Unit 100° K

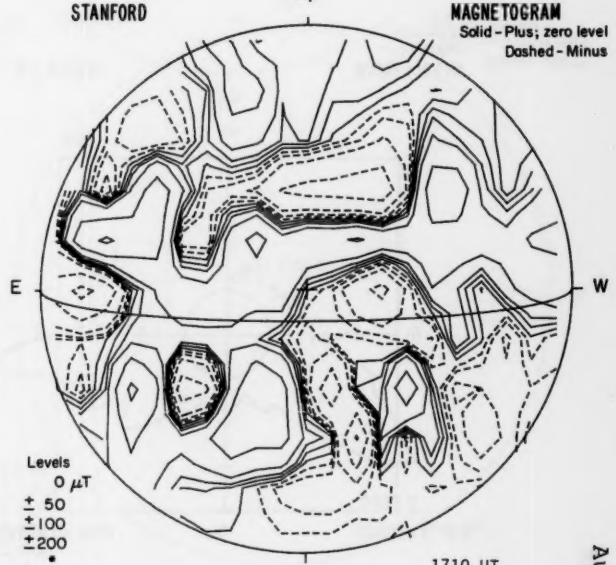
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

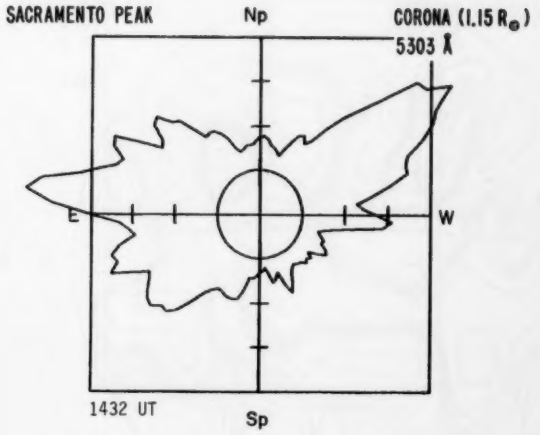
1710 UT

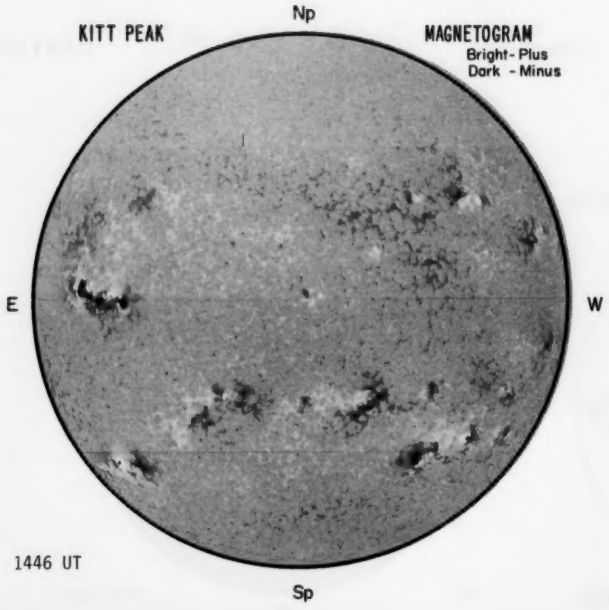
Sp

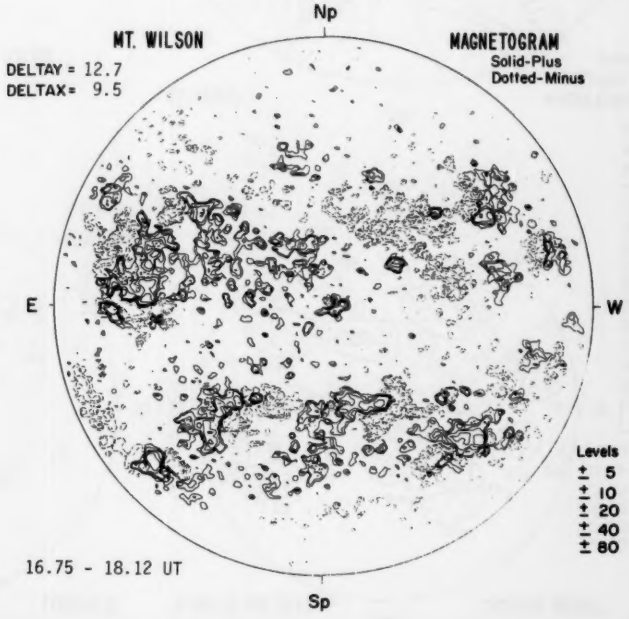
93

Aug 79

AUGUST 22, 1979 (P = 18.10, B_o = 6.93, L_o = 246.18)







1446 UT

Sp

16.75 - 18.12 UT

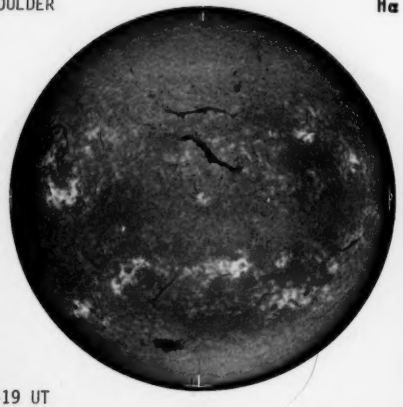
Sp

22

BOULDER

Np

Hα



E

W

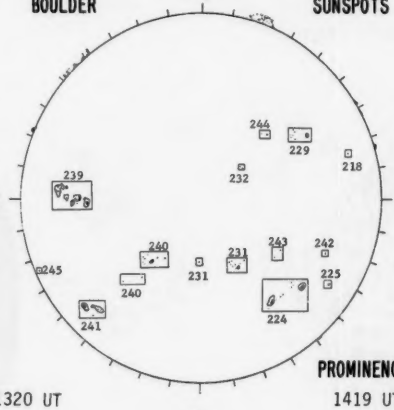
1419 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1320 UT

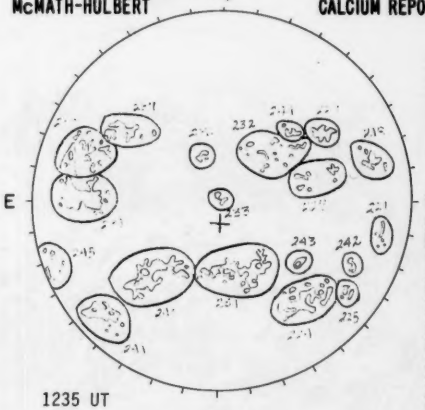
Sp

1419 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1235 UT

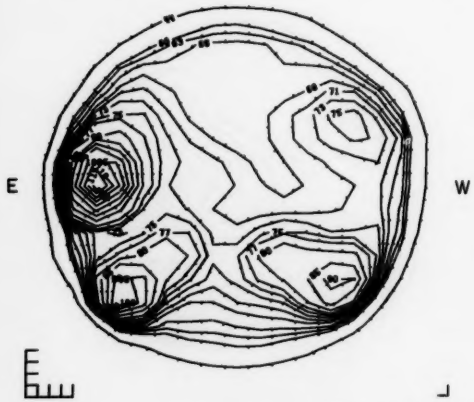
Sp

GOOD	S
18- 1600-2.5	
24- 4500-3.0	
29- 1400-3.0	
31- 3200-3.0	
33- 0300-2.5	
37- 1800-2.5	
38- 3000-2.5	
39- 5600-3.5	
40- 5000-3.0	
41- 2800-3.5	
42- 0500-2.5	
44- 0300-3.0	

NOSC LA POSTA

Np

2.0 CM



E

W

1636 UT

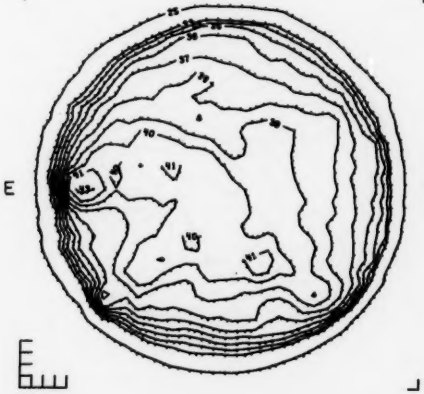
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1540 UT

Sp

Ant. Temp. Unit 100° K

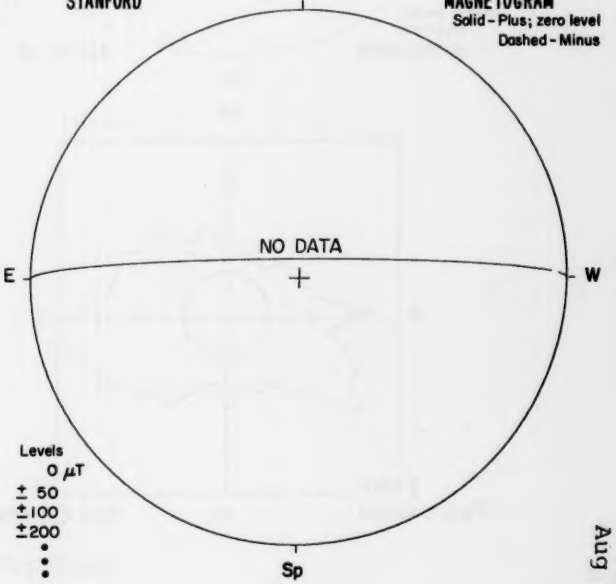
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

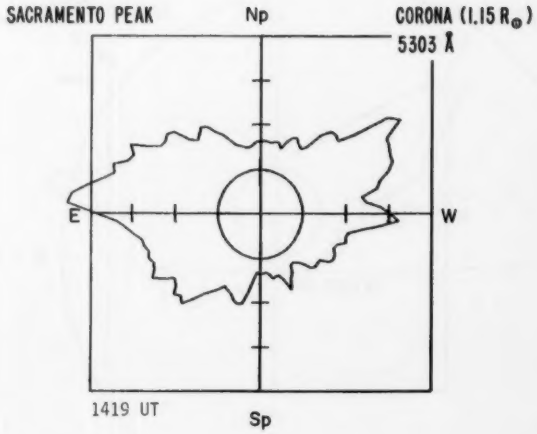
±200

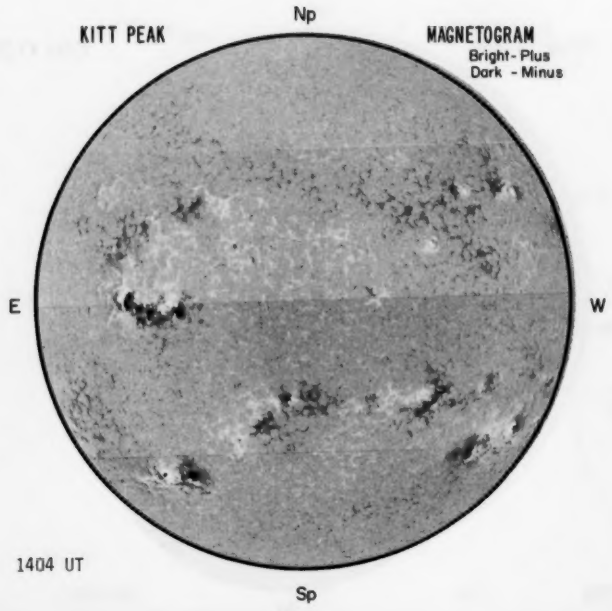
Sp

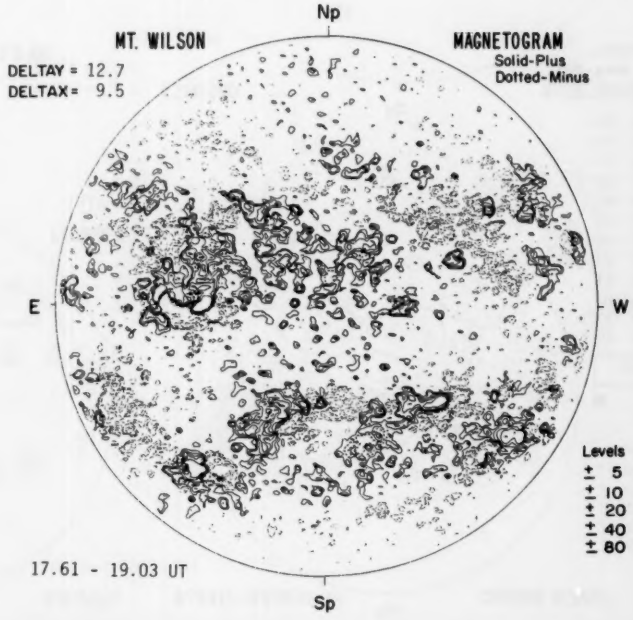
95

Aug 79

AUGUST 23, 1979 (P=18.41, B_o=6.96, L_o=232.97)







1404 UT

Sp

17.61 - 19.03 UT

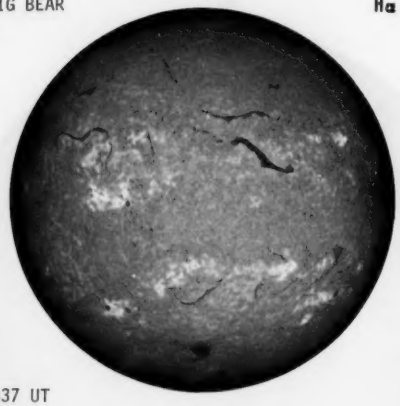
Sp

23

BIG BEAR

Np

Hα



E

W

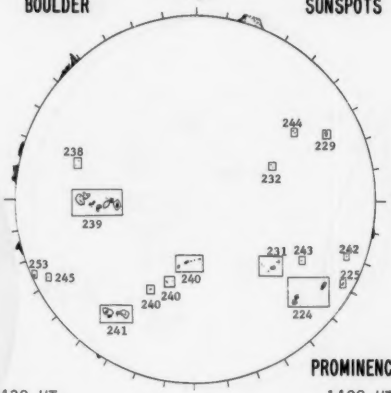
1837 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1430 UT

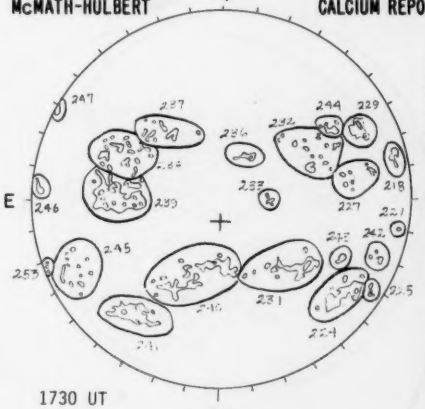
Sp

1408 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

POOR	S
18-	1400-2.5
24-	4500-3.0
29-	1500-3.0
31-	2800-3.0
37-	1400-2.5
38-	2800-2.5
39-	5800-3.0
40-	4200-3.0
41-	3400-3.5
42-	0400-2.5
44-	0600-2.5
46-	0900-2.5

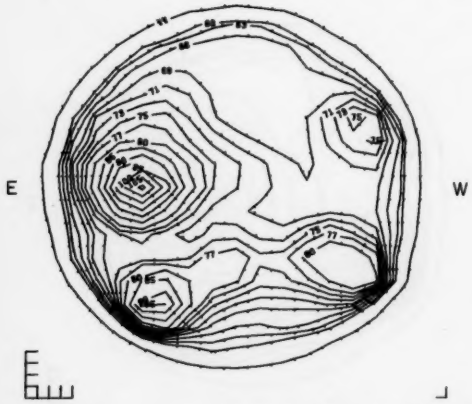
1730 UT

Sp

NOSC LA POSTA

Np

2.0 CM



E

W

2224 UT

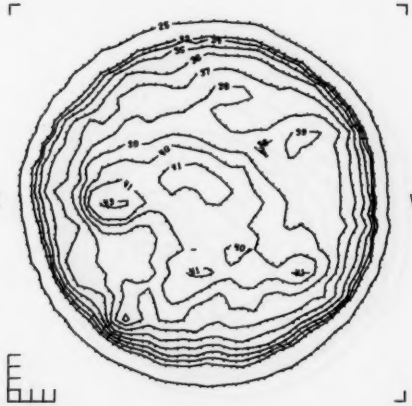
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

2128 UT

Sp

Ant. Temp. Unit 100° K

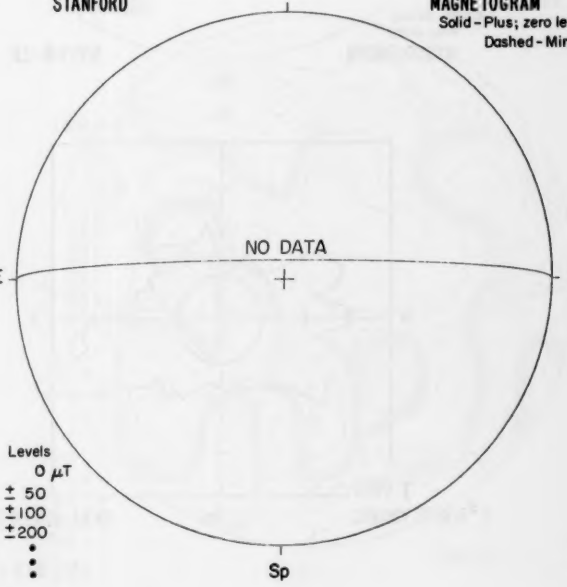
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

Sp

97

Aug 79

AUGUST 24, 1979 (P = 18.71, B_o = 6.99, L_o = 219.76)

SACRAMENTO PEAK
Np
CORONA (1.15 $R_\odot$)
5303 Å
E
W
1409 UT
Sp

KITT PEAK
Np
MAGNETOGRAM
Bright - Plus
Dark - Minus
E
W
1352 UT
Sp

MT. WILSON
Np
MAGNETOGRAM
Solid - Plus
Dotted - Minus
DELTAY =
DELTAX =
E
NO DATA
W
Levels
± 5
± 10
± 20
± 40
± 80
Sp

1352 UT

Sp

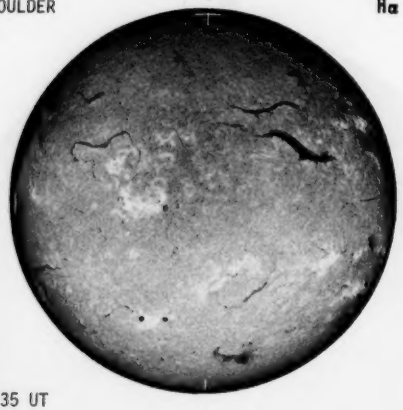
Sp

24

BOULDER

Np

Hα



E

W

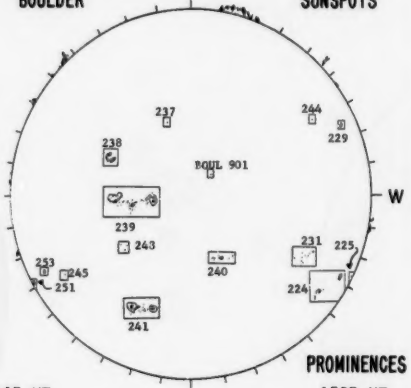
1535 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1445 UT

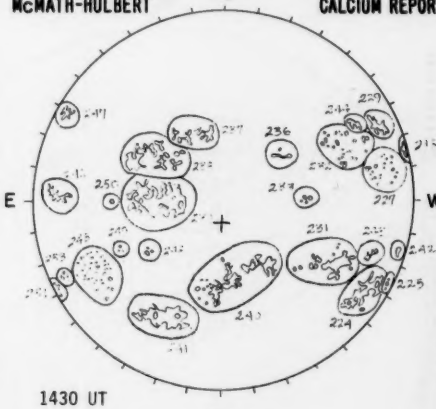
1535 UT

Sp

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1430 UT

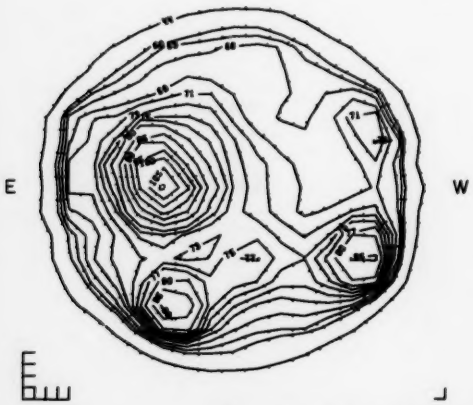
Sp

	POOR	M
24-	4000	2.5
29-	1200	3.0
31-	2600	3.5
37-	1200	2.5
38-	2700	3.0
39-	5200	3.0
40-	3700	3.0
41-	4000	3.0
44-	0600	3.0
46-	0900	3.0
48-	0100	2.5
51-	0900	2.5

NOSC LA POSTA

Np

2.0 CM



E

W

1658 UT

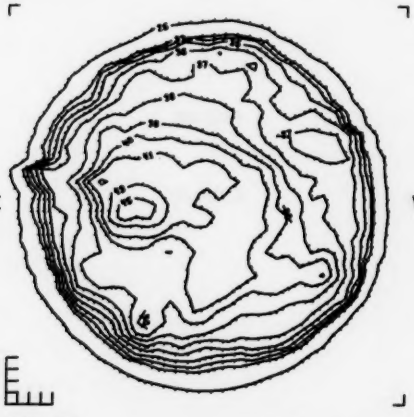
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1601 UT

Sp

Ant. Temp. Unit 100° K

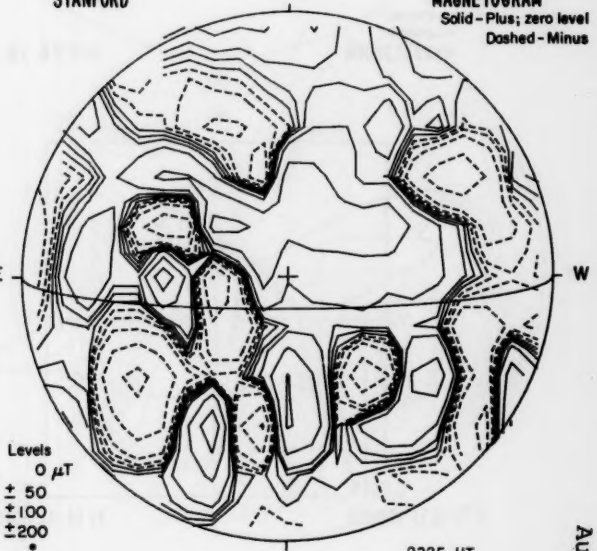
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

2325 UT

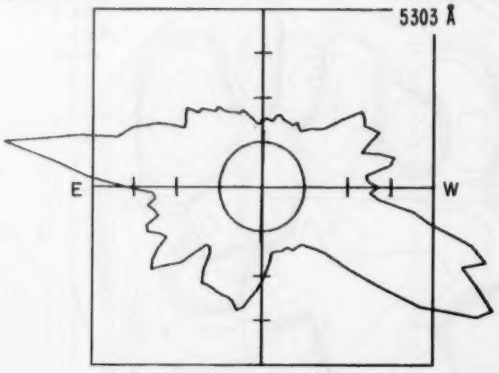
Sp

99

Aug 79

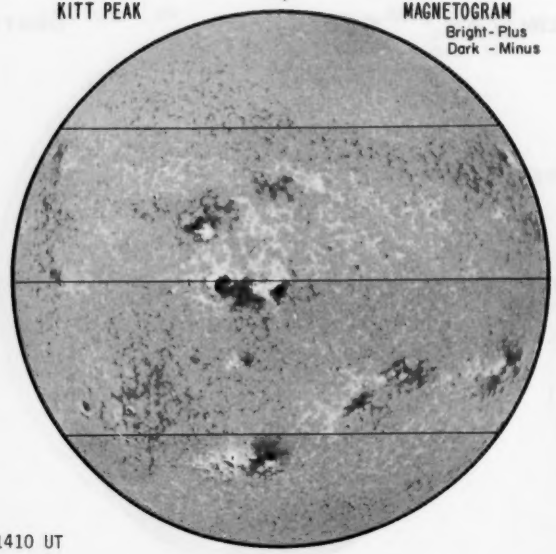
AUGUST 27, 1979 (P = 19.59, B_o = 7.08, L_o = 180.12)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



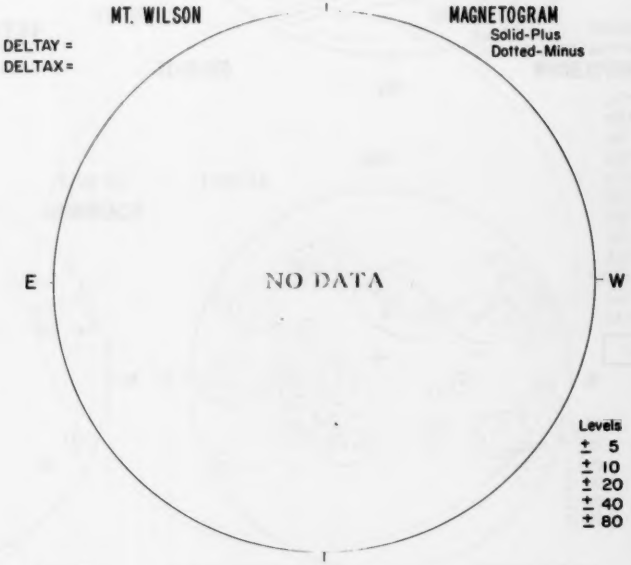
2324 UT Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1410 UT Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY =
DELTAX =



Sp

1410 UT

Sp

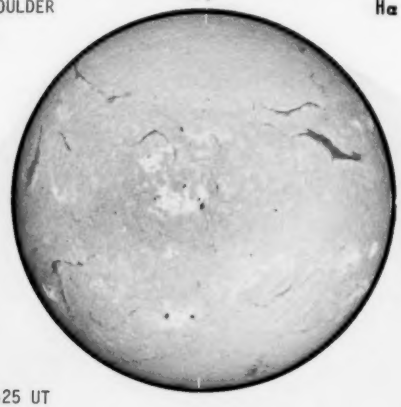
Sp

25

BOULDER

Np

Hα



E

W

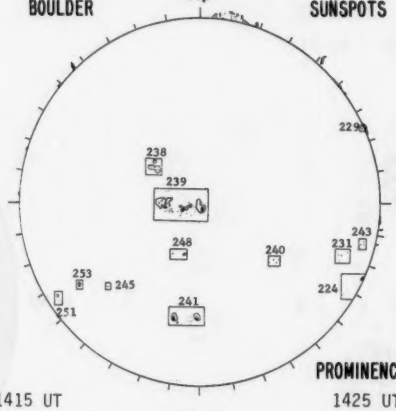
1425 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1415 UT

Sp

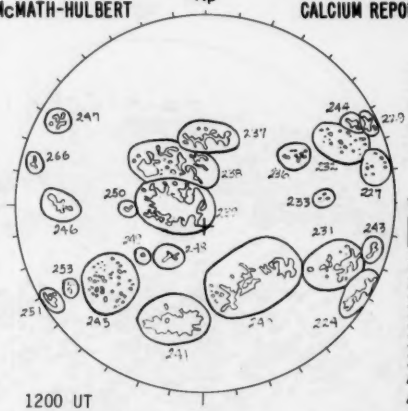
PROMINENCES

1425 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1200 UT

Sp

FAIR	M
24- 4000-2.0	
29- 1200-2.5	
31- 2800-3.0	
37- 1300-2.5	
38- 2900-3.0	
39- 5300-3.5	
40- 3500-2.5	
41- 4500-3.0	
43- 0800-3.0	
44- 0500-3.0	
46- 0900-2.5	
51- 1200-3.0	

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

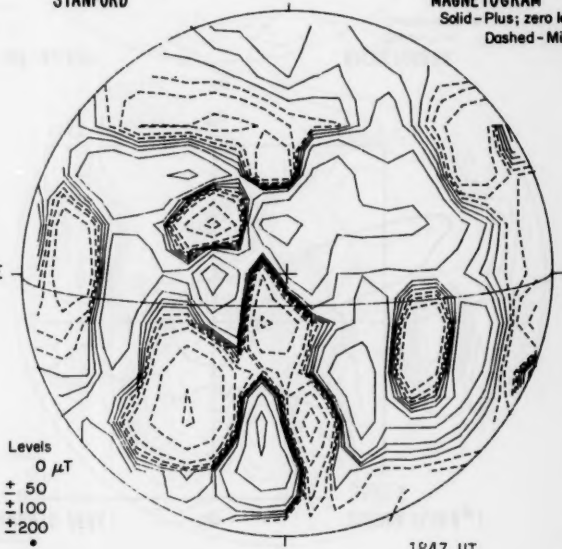
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

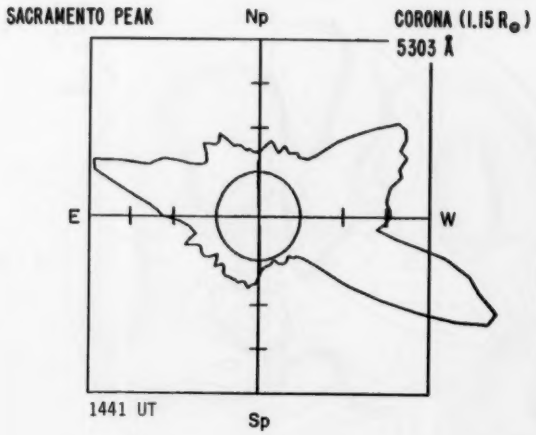
1847 UT

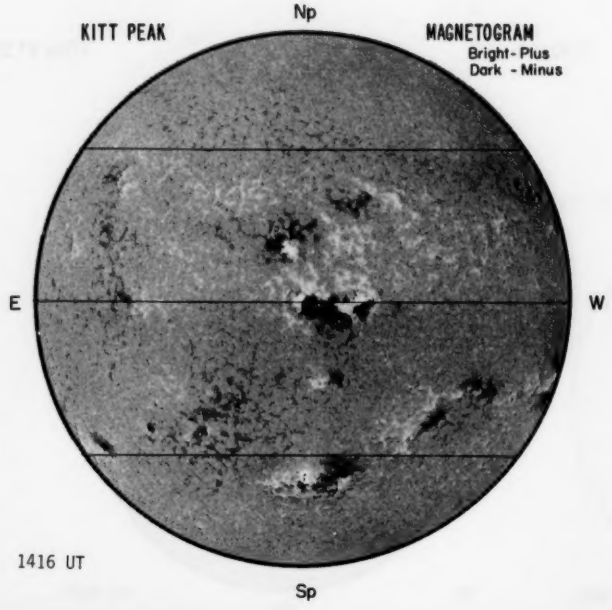
Sp

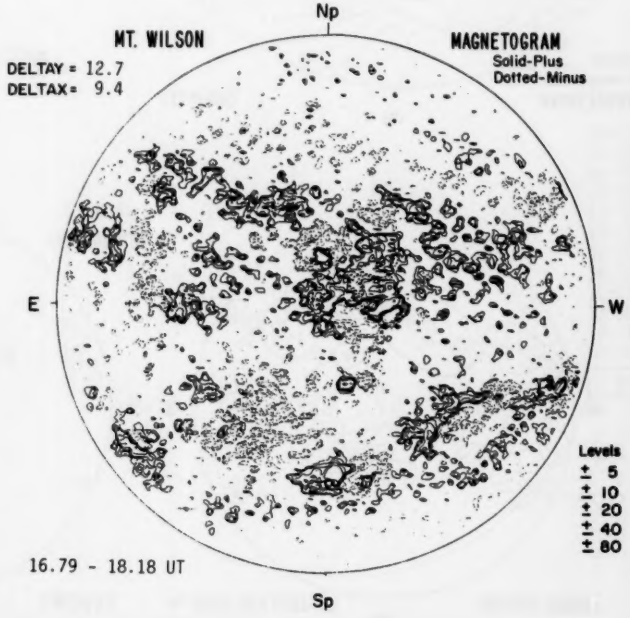
101

Aug 79

AUGUST 26, 1979 (P = 19.30, B_o = 7.05, L_o = 193.33)







1416 UT

Sp

16.79 - 18.18 UT

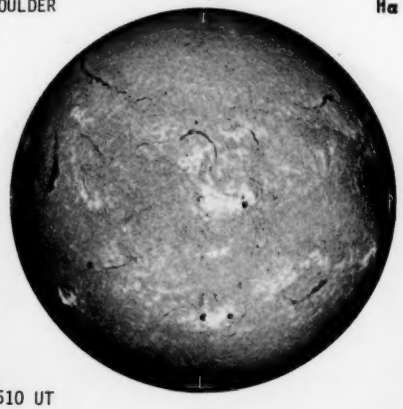
Sp

26

BOULDER

Np

Hα



E

W

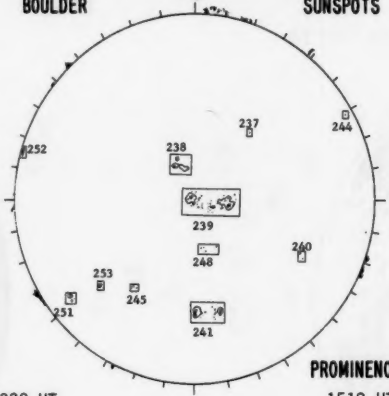
1510 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1320 UT

Sp

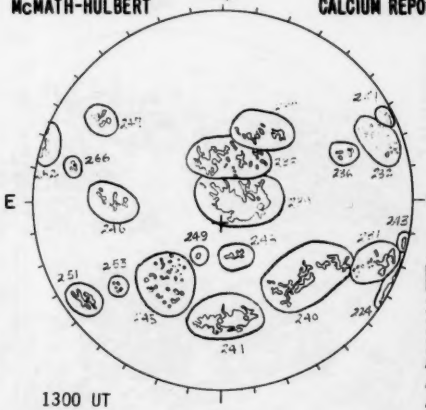
PROMINENCES

1510 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1300 UT

Sp

FAIR	M
31-	2600-2.5
38-	3000-2.5
39-	5500-3.5
40-	3500-2.5
41-	4400-3.0
44-	0800-2.5
51-	1500-3.0
52-	2400-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

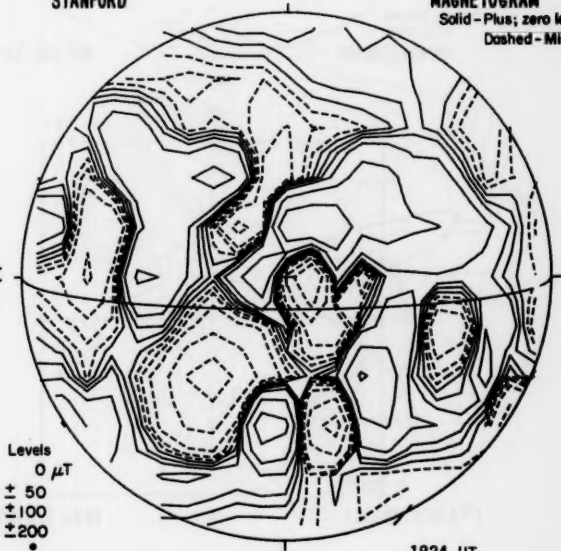
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

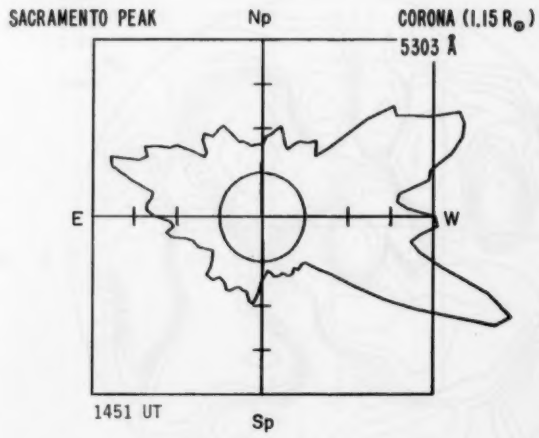
±100

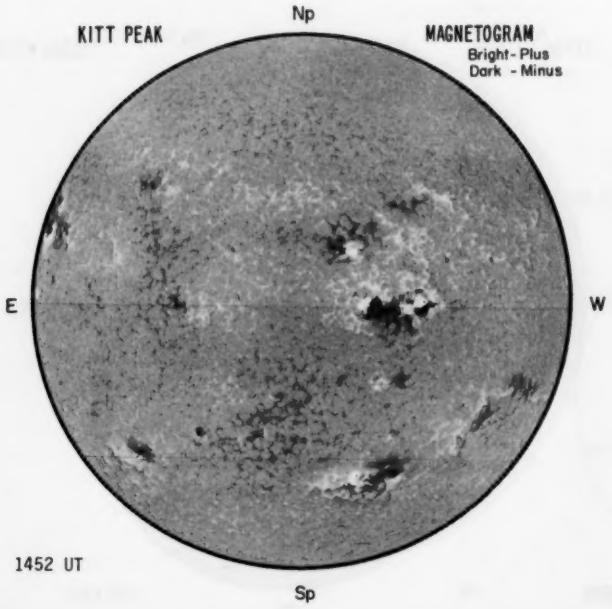
±200

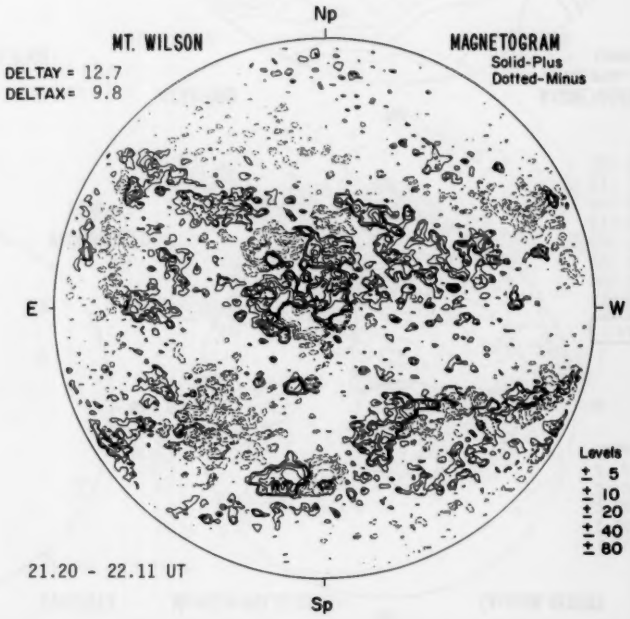
1824 UT

Sp

AUGUST 25, 1979 (P = 19.01, B_o = 7.03, L_o = 206.54)







1452 UT

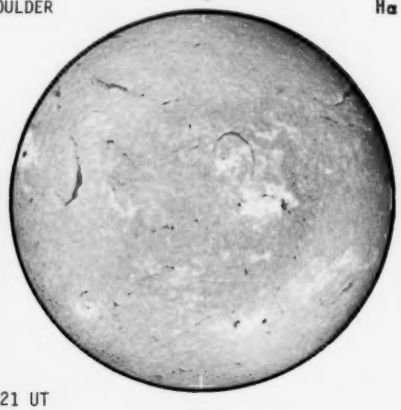
Sp

21.20 - 22.11 UT

Sp

27

BOULDER Np Hα

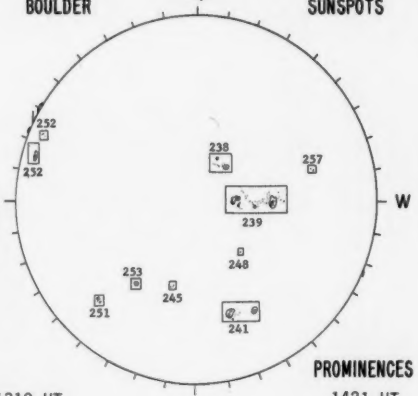


E W

1421 UT

Sp

BOULDER Np SUNSPOTS



E W

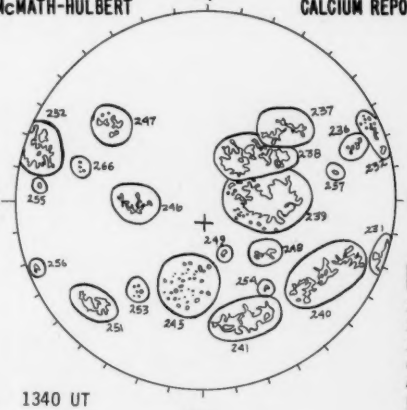
1310 UT

Sp

PROMINENCES

1421 UT

McMATH-HULBERT Np CALCIUM REPORT



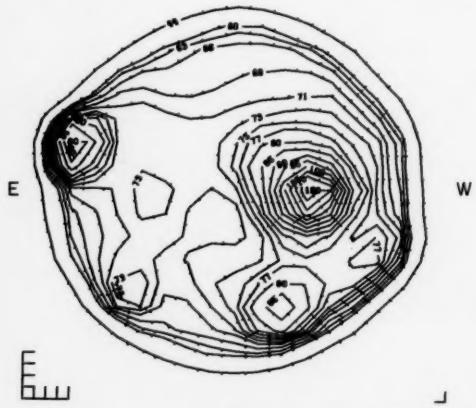
E W

1340 UT

Sp

FAIR	M
31- 1800-2.5	
38- 3200-3.0	
39- 5500-3.5	
40- 3500-2.5	
41- 4200-3.0	
51- 1900-3.0	
[illegible]- 5000-3.0	

NOSC LA POSTA Np 2.0 CM

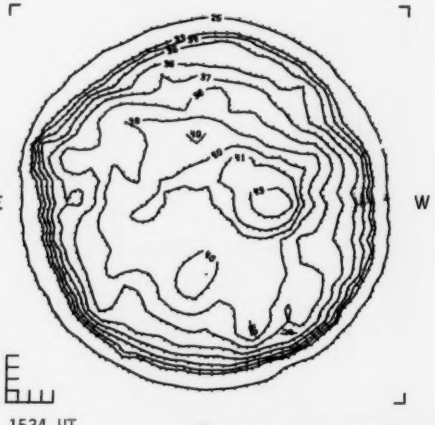


E W

1631 UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



E W

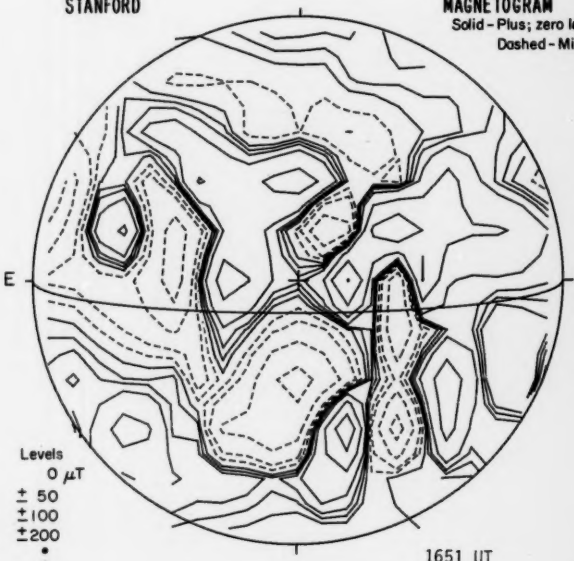
1534 UT

Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

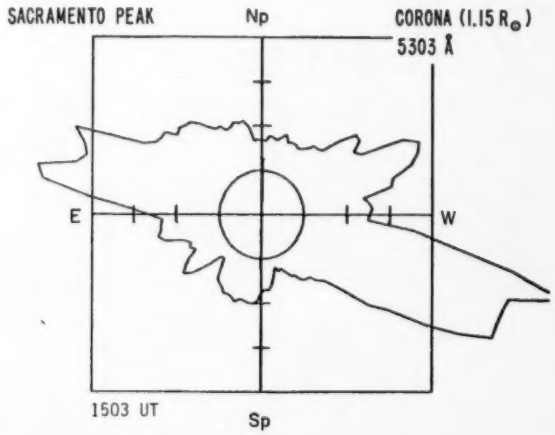
1651 UT

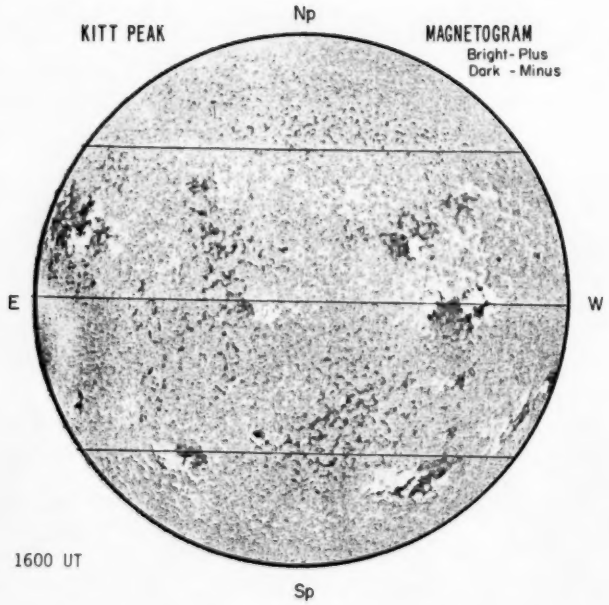
Sp

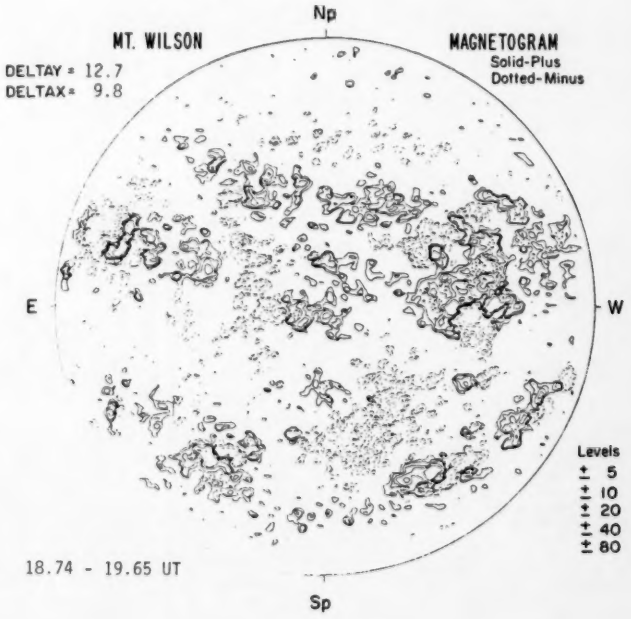
105

Aug 79

AUGUST 28, 1979 (P = 19.87, B_o = 7.11, L_o = 166.91)







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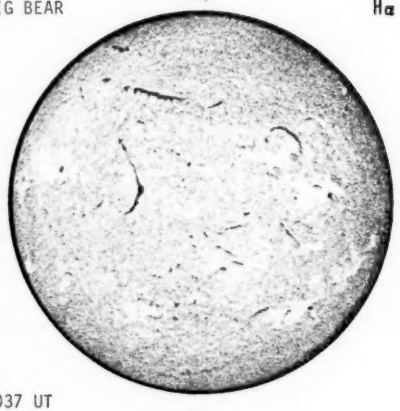
28

Np Np Np

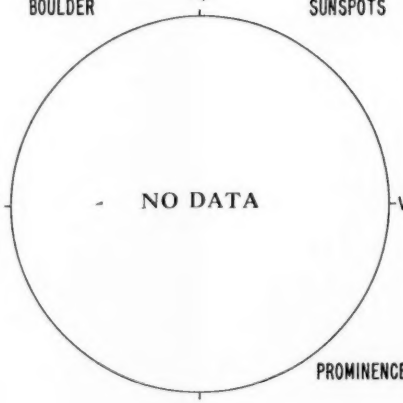
28

BIG BEAR Hα



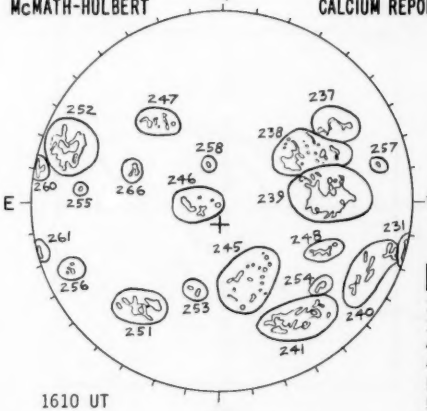
0037 UT

BOULDER SUNSPOTS



PROMINENCES

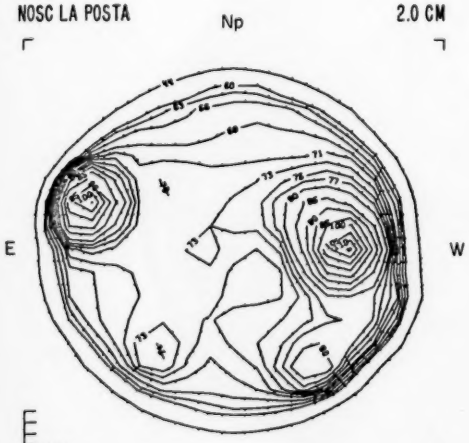
McMATH-HULBERT CALCIUM REPORT



1610 UT

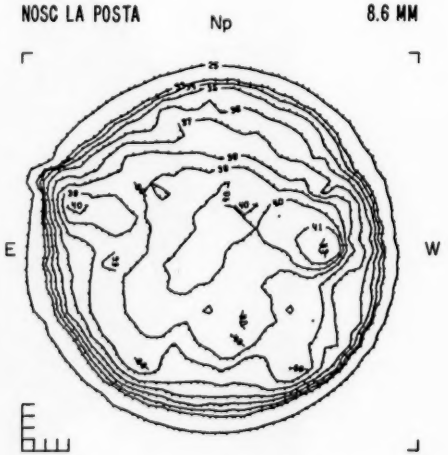
FAIR	S
38- 2800-2.5	
39- 5500-3.0	
40- 3200-2.5	
41- 4000-3.0	
51- 1900-3.0	
52- 5000-3.5	
61- 1000-2.5	

NOSC LA POSTA 2.0 CM



1652 UT Ant. Temp. Unit 100° K

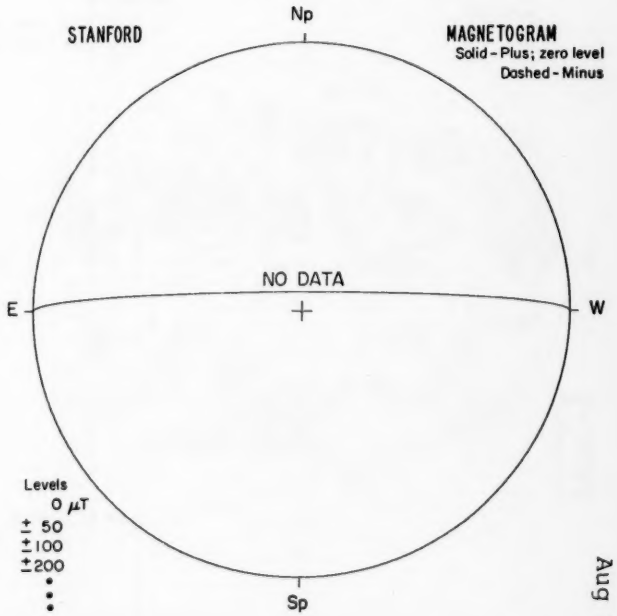
NOSC LA POSTA 8.6 MM



1559 UT Ant. Temp. Unit 100° K

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



107
Aug 79

AUGUST 29, 1979 (P = 20.15, B_o = 7.13, L_o = 153.70)

SACRAMENTO PEAK
Np
CORONA (1.15 $R_\odot$)
5303 Å
E
W
1440 UT
Sp

KITT PEAK
Np
MAGNETOGRAM
Bright - Plus
Dark - Minus
E
W
1459 UT
Sp

MT. WILSON
Np
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.8
E
W
Levels
± 5
± 10
± 20
± 40
± 80
18.48 - 19.40 UT
Sp

1459 UT

Sp

18.48 - 19.40 UT

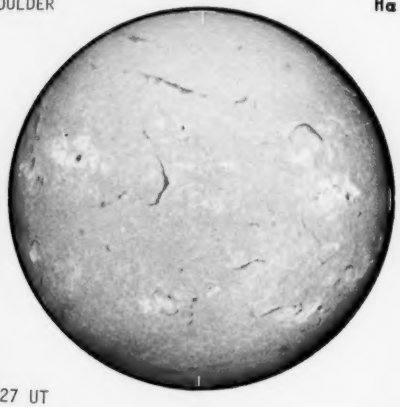
Sp

29

BOUDER

Np

Hα



E

W

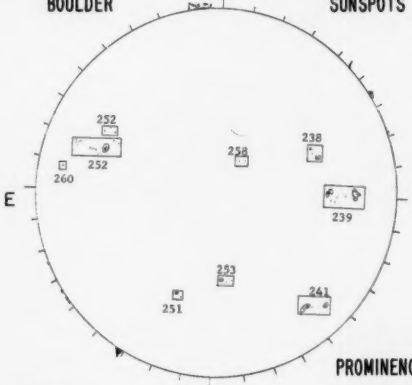
1427 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

PROMINENCES

1420 UT

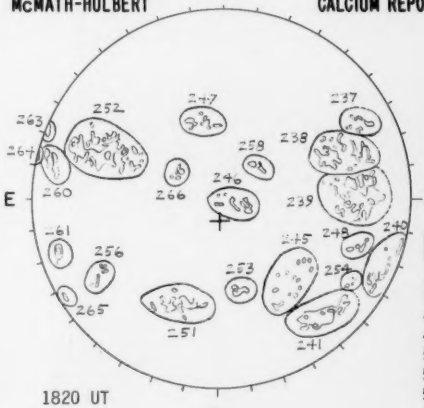
Sp

1427 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1820 UT

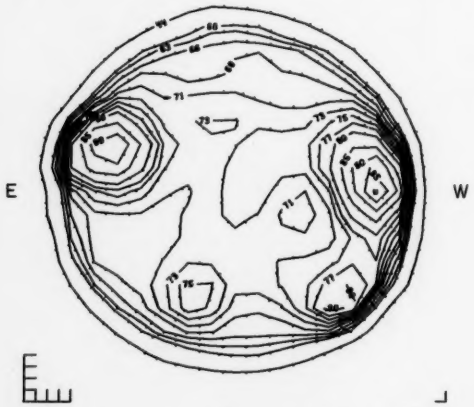
Sp

GOOD	M
38- 2700-3.0	
39- 5500-3.5	
41- 4200-3.0	
46- 0700-2.5	
51- 1800-3.0	
52- 5300-3.5	
58- 0300-2.5	
60- 1400-2.5	
61- 0800-3.0	
63- 1100-3.0	

NOSC LA POSTA

Np

2.0 CM



E

W

1646 UT

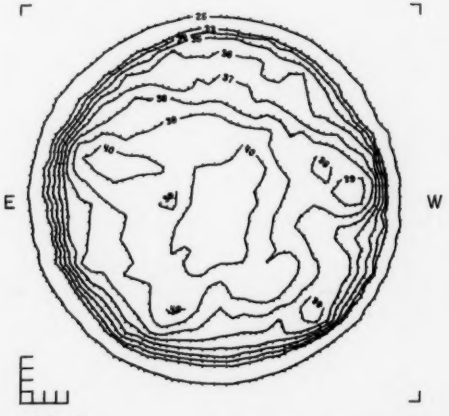
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1552 UT

Sp

Ant. Temp. Unit 100° K

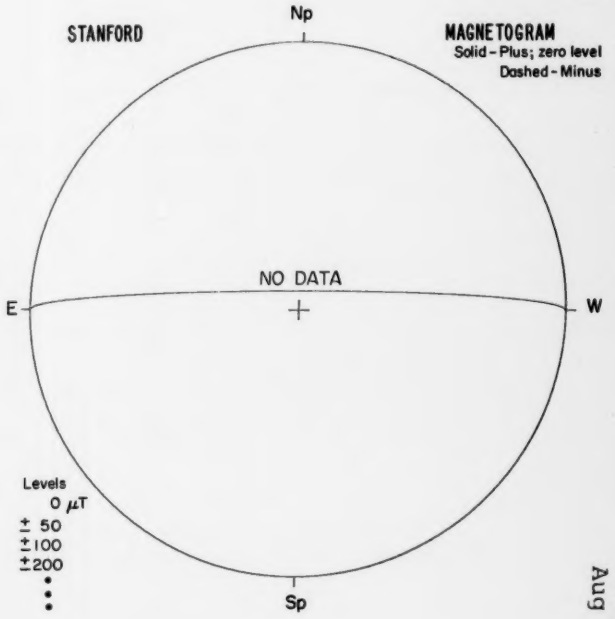
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

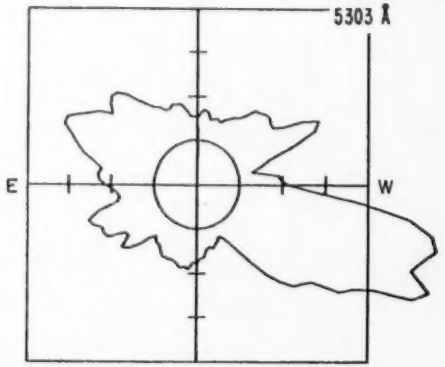
Sp

109

Aug 79

AUGUST 30, 1979 (P = 20.42, B_o = 7.15, L_o = 140.48)

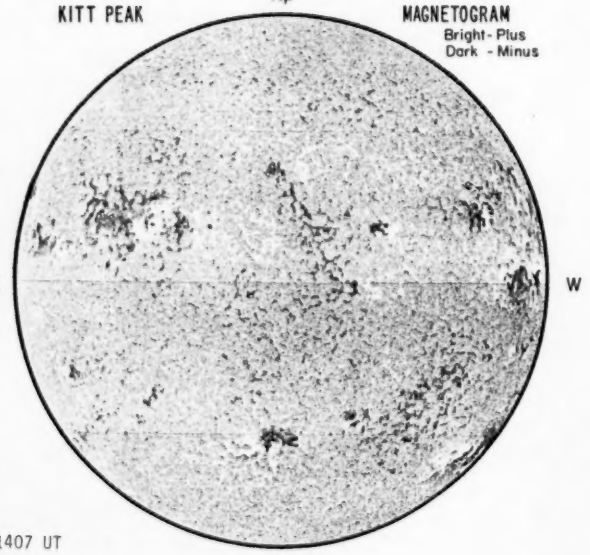
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1433 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



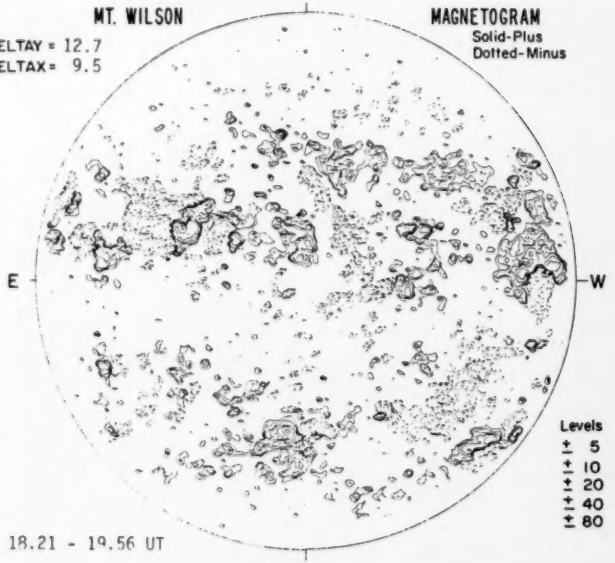
1407 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.5



18.21 - 19.56 UT

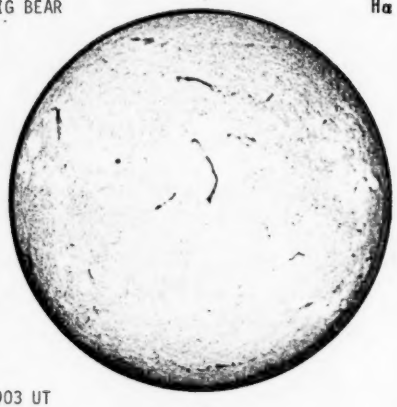
Sp

30

BIG BEAR Np Hα BOULDER Np SUNSPOTS McMATH-HULBERT Np

30

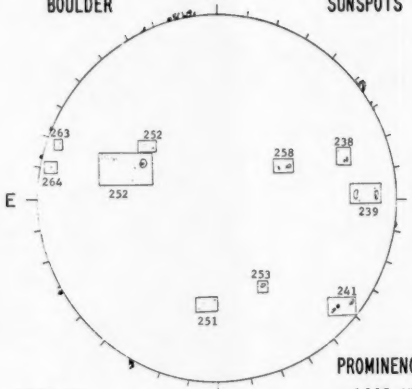
BIG BEAR Np Hα



E W

1903 UT Sp

BOULDER Np SUNSPOTS



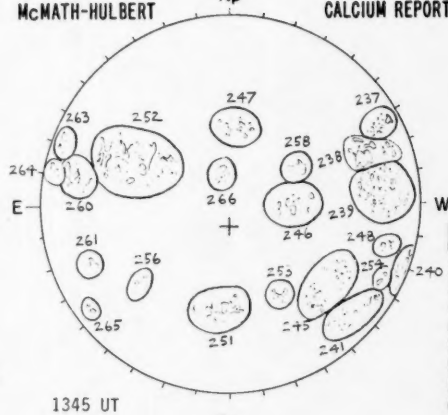
E W

1450 UT Sp

PROMINENCES

1442 UT

McMATH-HULBERT Np CALCIUM REPORT

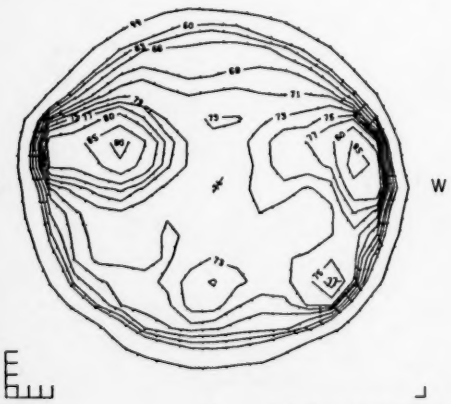


E W

1345 UT Sp

GOOD	S
38- 2400-3.0	
39- 5800-3.0	
41- 3800-2.5	
48- 0300-2.5	
51- 1600-2.5	
52- 5000-3.5	
58- 0800-3.0	
60- 1500-2.5	
61- 0600-2.5	
63- 1500-3.0	
65- 0200-2.5	

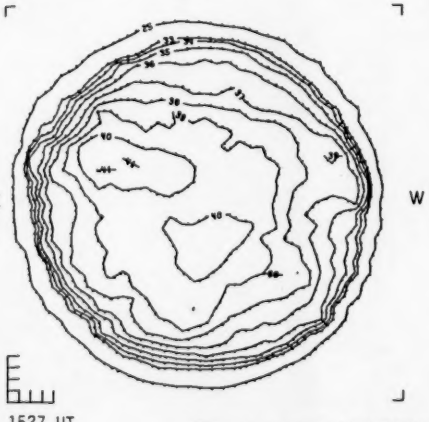
NOSC LA POSTA Np 2.0 CM



E W

1624 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM



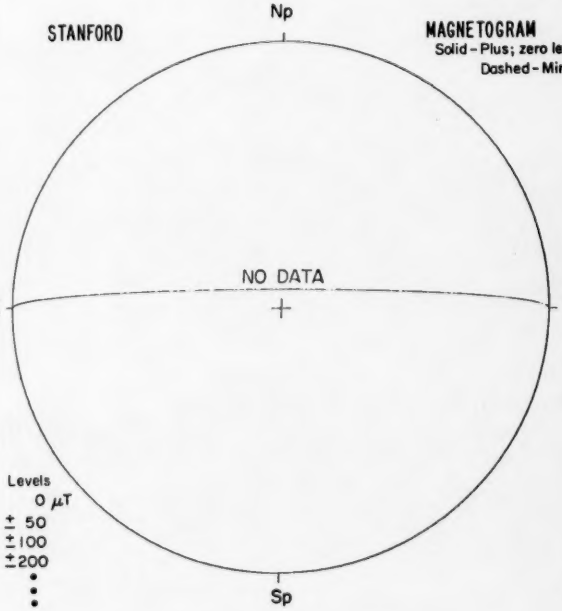
E W

1527 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

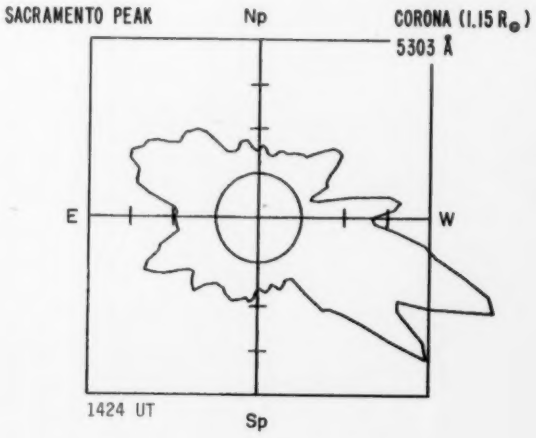
±200

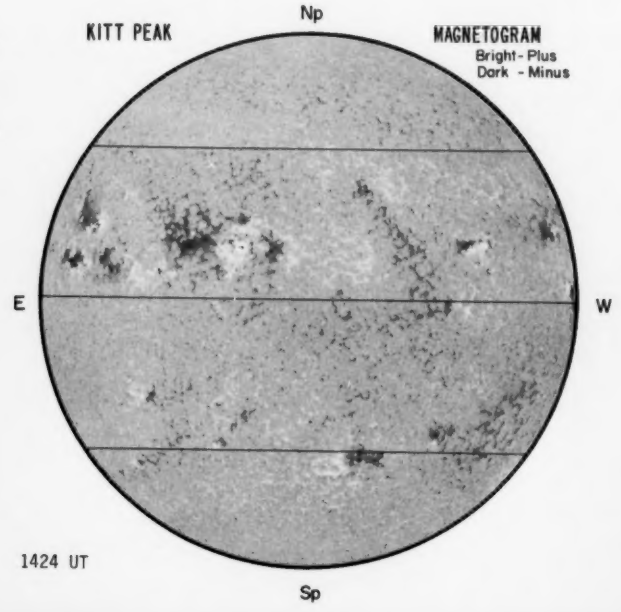
Sp

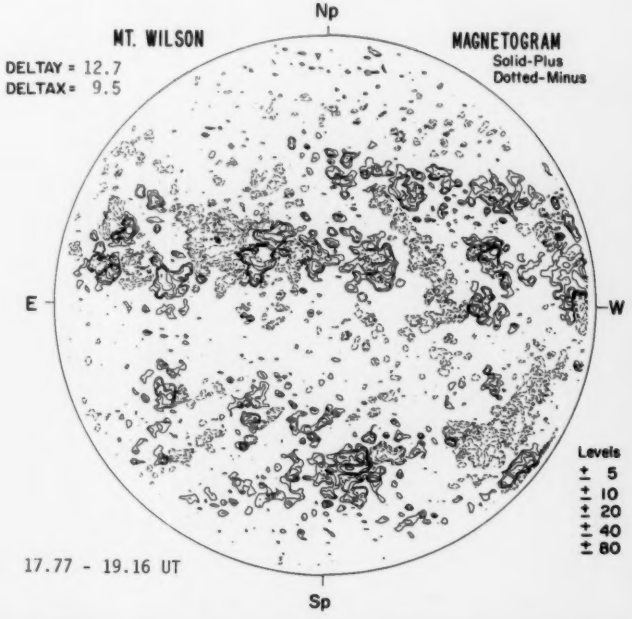
111

Aug 79

AUGUST 31, 1979 (P = 20.69, B_o = 7.17, L_o = 127.27)







1424 UT

Sp

17.77 - 19.16 UT

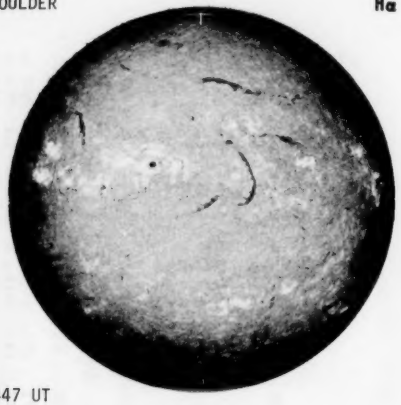
Sp

31

BOULDER

Np

Hα



E

W

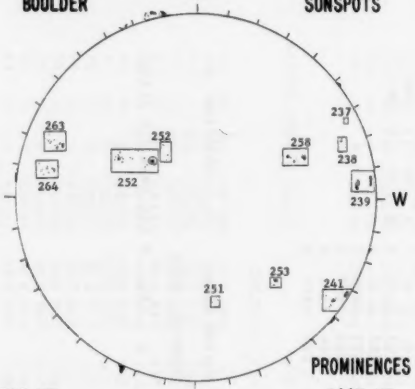
1447 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1320 UT

Sp

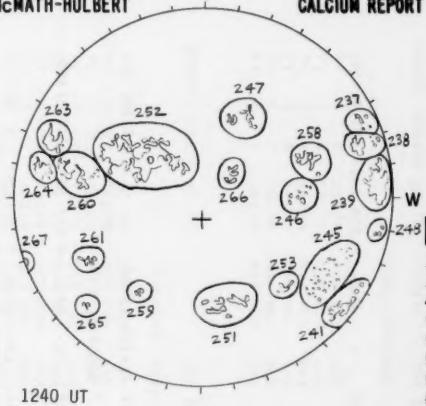
PROMINENCES

1447 UT

McMATH-HULBERT

Np

CALCIUM REPORT



E

W

1240 UT

Sp

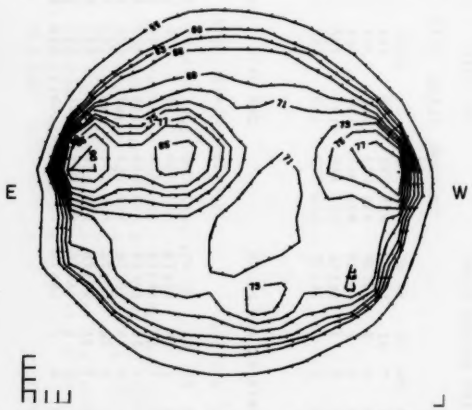
GOOD	M

38- 2400-3.0
39- 5800-3.0
41- 3500-2.5
51- 1600-2.5
52- 5500-3.0
53- 0400-2.5
58- 0800-3.0
60- 1800-2.5
61- 0400-2.5
63- 2000-3.0
64- 1300-3.5
65- 0200-2.5

NOSC LA POSTA

Np

2.0 CM



E

W

1638 UT

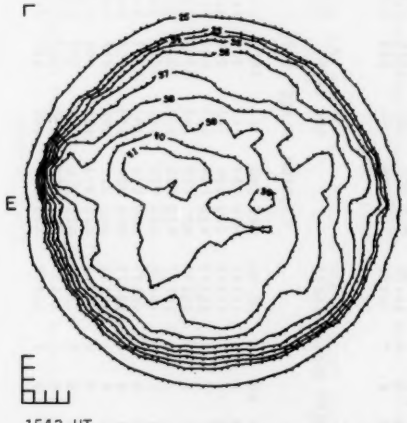
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1543 UT

Sp

Ant. Temp. Unit 100° K

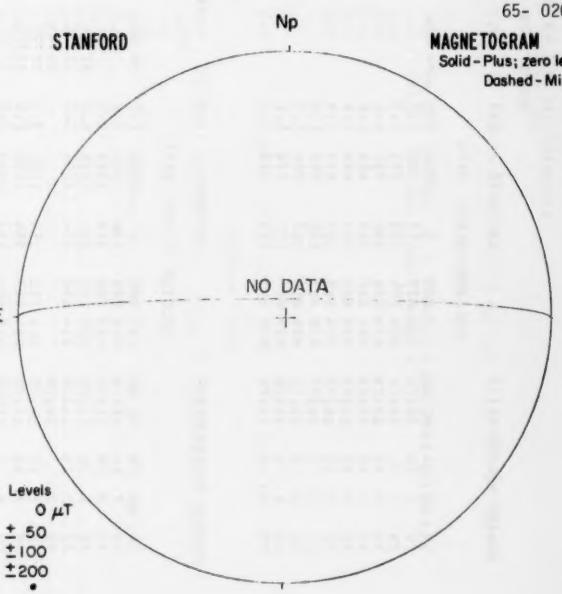
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

Sp

113

Aug 79

REGIONS OF SOLAR ACTIVITY

AUGUST 1979

MCMATH REGION 16178 CMP DATE 1.3

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	26	16178	N34 E79	158	300	1.5									
79	7	27	16178	N34 E64	160	700	1.5									
79	7	28	16178	N34 E50	160	500	1.0									
79	7	29	16178	N35 E37	160	400	1.0									
79	7	30	16178	N35 E23	162	400	1.0									
79	7	31	16178	N35 E09	162	400	1.5									
79	8	1	16178	N35 W03	160	200	1.5									
79	8	2	16178	N35 W15	157	200	1.5									
79	8	3	16178	N35 W27	157	200	1.0									
79	8	4	16178	N35 W41	158	300	1.0									

MCMATH REGION 16175 CMP DATE 1.8 RETURN OF REGION 16118 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	26	16175	S13 E89	148	500	2.0									
79	7	27	16175	S13 E68	156	1000	2.5									
79	7	28	16175	S15 E56	154	1200	3.0	20775	S14 E54	156	(B)	2	B	30	3	BXO
79	7	29	16175	S14 E43	154	1500	3.0	20775	S14 E45	152	(B)	2				
79	7		16175					20779	S15 E42	155	(AP)	2				
79	7	30	16175	S14 E31	154	1500	3.0	20775	S13 E33	151	(B)	4	B	50	12	CRO
79	7	31	16175	S14 E17	154	1500	2.5	20775	S12 E18	153	(BP)	2	B	70	16	DRO
79	8	1	16175	S13 E04	153	1400	3.5	20775	S12 E04	152	(D)	4				
79	8	2	16175	S13 W09	151	1100	2.5	20775	S12 W11	153	(BP)	3				
79	8	3	16175	S13 W22	152	1100	2.0	20775	S13 W26	155	(BP)	4				
79	8	4	16175	S13 W36	153	1100	2.5	20775	S13 W38	154	(AP)	2				
79	8	5	16175	S13 W51	154	900	2.0	20775	S13 W52	155	(AP)	3				
79	8	6	16175	S13 W65	155	1000	2.5									
79	8	7	16175	S13 W78	154	800	1.5									

MCMATH REGION 16177 CMP DATE 2.0 RETURN OF REGION 16114 ROTATION 5

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	26	16177	N22 E89	148	300	1.0									
79	7	27	16177	N20 E74	150	800	1.0									
79	7	28	16177	N20 E63	147	700	1.5									
79	7	29	16177	N21 E49	148	1000	1.5									
79	7	30	16177	N20 E34	151	1400	2.0									
79	7	31	16177	N20 E20	151	1200	2.0									
79	8	1	16177	N19 E06	151	1200	2.0									
79	8	2	16177	N19 W08	150	1100	2.0									
79	8	3	16177	N20 W21	151	800	1.0									
79	8	4	16177	N20 W33	150	600	1.5									
79	8	5	16177	N20 W46	149	500	1.0									
79	8	6	16177	N20 W58	148	600	1.5									
79	8	7	16177	N20 W72	148	400	2.0									

MCMATH REGION 16195 CMP DATE 2.1

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	31	16195	N36 E22	149	300	1.0									
79	8	1	16195	N36 E08	149	300	1.5									
79	8	2	16195	N36 W04	146	300	1.0									
79	8	3	16195	N36 W15	145	300	1.0									
79	8	4	16195	N36 W28	145	200	1.0									

MCMATH REGION 16176 CMP DATE 2.4 RETURN OF REGION 16115 AND NEW ROTATIONS 6 AND 1

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	26	16176	N05 E89	148	300	1.0									
79	7	27	16176	N06 E76	148	700	1.0	20774	N05 E71	152	(AP)	3	B	40	1	HAX
79	7	28	16176	N07 E64	146	700	1.5	20774	N05 E58	152	(AP)	4	B	40	1	HSX
79	7	29	16176	N07 E50	147	800	1.5	20774	N05 E45	152	(AP)	4	B	50	1	HSX
79	7	30	16176	N07 E37	148	700	1.5	20774	N04 E33	151	(AP)	4	B	60	2	HSX
79	7	31	16176	N07 E24	147	500	1.5	20774	N04 E19	152	(AP)	3	B	60	3	HSX
79	8	1	16176	N07 E11	146	500	1.5	20774	N04 E06	150	(AP)	3	B	30	2	HSX
79	8	2	16176	N08 W02	144	600	1.5	20774	N04 W07	149	(AP)	3				

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MCMATH REGION 16176 (CONT) CMP DATE 2.4 RETURN OF REGION 16115 AND NEW ROTATIONS 6 AND 1

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	3	16176	N07 W15	145	500	2.0	20774	N04 W21	150	(AP)	3			
79	8	4	16176	N07 W27	144	1000	2.5								
79	8	5	16176	N07 W40	143	1200	3.0								
79	8	6	16176	N06 W54	144	1800	3.0								
79	8	7	16176	N07 W67	143	2100	3.0								
79	8	8	16176	N05 W80	143	1900	2.0								

MCMATH REGION 16179 CMP DATE 2.4 RETURN OF PART OF REGION 16112 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	27	16179	S28 E75	149	800	1.0								
79	7	28	16179	S30 E63	147	900	1.0								
79	7	29	16179	S30 E51	146	1000	1.5								
79	7	30	16179	S29 E40	145	1200	1.5		S26 E42				B	0	1 AXX
79	7	31	16179	S29 E24	147	1300	1.5								
79	8	1	16179	S29 E12	145	1100	1.5								
79	8	2	16179	S29 W01	143	1300	1.5								
79	8	3	16179	S29 W13	143	900	2.0								
79	8	4	16179	S29 W25	142	800	2.0								
79	8	5	16179	S29 W38	141	800	1.5								
79	8	6	16179	S30 W49	139	800	1.5								
79	8	7	16179	S30 W62	138	900	1.5								
79	8	8	16179	S30 W74	137	400	1.0								

MCMATH REGION 16181 CMP DATE 2.9 RETURN OF PART OF REGION 16119 ROTATION 5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	27	16181	N18 E82	142	400	1.0								
79	7	28	16181	N17 E72	138	500	1.0								
79	7	29	16181	N19 E60	137	700	1.5								
79	7	30	16181	N19 E47	138	600	1.5								
79	7	31	16181	N18 E28	143	600	1.5								
79	8	1	16181	N18 E15	142	700	1.5								
79	8	2	16181	N18 E04	138	600	1.5								
79	8	3	16181	N19 W10	140	500	2.0								
79	8	4	16181	N17 W22	139	800	1.5								
79	8	5	16181	N19 W35	138	700	2.0								
79	8	6	16181	N19 W47	137	600	2.0								
79	8	7	16181	N18 W62	138	600	2.0								
79	8	8	16181	N18 W75	138	400	1.0								

MCMATH REGION 16184 CMP DATE 4.0 RETURN OF REGION 16121 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	29	16184	N22 E74	123	300	1.5								
79	7	30	16184	N22 E62	123	500	1.5								
79	7	31	16184	N22 E45	126	300	1.5								
79	8	1	16184	N22 E34	123	300	1.5								
79	8	2	16184	N21 E20	122	300	1.5								
79	8	3	16184	N22 E06	124	300	1.0								
79	8	4	16184	N22 W07	124	400	1.0								
79	8	5	16184	N22 W21	124	300	1.0								
79	8	6	16184	N22 W34	124	400	1.0								
79	8	7	16184	N23 W47	123	400	1.0								
79	8	8	16184	N23 W60	123	300	1.0								
79	8	9	16184	N23 W73	124	200	1.0								

MCMATH REGION 16182 CMP DATE 4.1 RETURN OF REGION 16122 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	28	16182	N10 E88	122	500	1.0	20776	N12 E85	125	(AP)	2	B	100	1 HSX
79	7	29	16182	N12 E76	121	700	2.0	20776	N12 E70	127	(AP)	3	B	130	1 HSX
79	7	30	16182	N12 E62	123	800	2.0	20776	N12 E57	127	(AP)	5			
79	7	31	16182	N12 E45	126	800	1.5	20776	N12 E44	127	(AP)	4	B	140	2 HSX
79	8	1	16182	N12 E34	123	1200	1.5	20776	N12 E30	126	(AP)	4	B	170	2 HSX
79	8	2	16182	N12 E20	122	1200	2.0	20776	N12 E17	125	(AP)	4			
79	8	3	16182	N13 E07	123	1200	2.5	20776	N12 E04	125	(BP)	4			

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MCMATH REGION 16182 (CONT) CMP DATE 4.1 RETURN OF REGION 16122 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	4	16182	N13 W07	124	1200	2.5	20776	N12 W10	126	(BP)	4			
79	8	5	16182	N13 W21	124	1200	2.0	20776	N12 W23	126	(AP)	4	B	50	5 CSO
79	8	6	16182	N13 W32	122	1200	2.5	20776	N12 W38	127	AP	4			
79	8	7	16182	N13 W45	121	1200	2.0	20776	N13 W50	126	(AP)	4			
79	8	8	16182	N13 W59	122	800	2.0	20776	N12 W64	126	(AP)	3			
79	8	9	16182	N14 W72	123	800	2.0	20776	N12 W76	126	(AP)	2			

MCMATH REGION 16183 CMP DATE 4.4 RETURN OF REGION 16120 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	28	16183	N26 E87	123	500	1.0								
79	7	29	16183	N27 E76	121	300	1.0								
79	7	30	16183	N27 E68	117	300	1.0								
79	7	31	16183	N28 E50	121	200	1.5								
79	8	1	16183	N29 E37	120	200	1.5								
79	8	2	16183	N29 E25	117	300	1.0								
79	8	3	16183	N29 E12	118	400	1.0								
79	8	4	16183	N29 W01	118	500	1.0								
79	8	5	16183	N29 W15	118	500	1.5								
79	8	6	16183	N29 W28	118	500	1.0								
79	8	7	16183	N30 W39	115	700	1.5								
79	8	8	16183	N29 W52	115	700	1.0								
79	8	9	16183	N30 W65	116	500	1.0								

MCMATH REGION 16186 CMP DATE 4.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	29	16186	S18 E83	114	400	2.0								
79	7	30	16186	S18 E66	119	200	2.0								
79	7	31	16186	S18 E50	121	200	2.0								
79	8	1	16186	S18 E39	118	300	2.5								
79	8	2	16186	S18 E26	116	200	3.0								
79	8	3	16186	S18 E13	117	300	1.5								
79	8	4	16186	S18 E00	117	200	1.5								
79	8	5	16186	S18 W16	119	300	2.0								
79	8	6	16186	S17 W30	120	300	2.5								
79	8	7	16186	S16 W43	119	500	3.0								
79	8	8	16186	S16 W56	119	500	2.5								
79	8	9	16186	S16 W69	120	500	3.0								
79	8	10	16186	S16 W83	120	400	1.0								

MCMATH REGION 16185 CMP DATE 4.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	29	16185	S10 E84	113	400	1.0								
79	7	30	16185	S10 E69	116	300	1.5								
79	7	31	16185	S10 E51	120	100	1.5								
79	8	1	16185	S11 E41	116	100	1.0								

MCMATH REGION 16188 CMP DATE 5.4 RETURN OF PART OF REGION 16123 ROTATION 4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	7	30	16188	N17 E76	109	600	1.0								
79	7	31	16188	N14 E58	113	400	2.0								
79	8	1	16188	N20 E50	107	600	2.0								
79	8	2	16188	N20 E37	105	600	2.0								
79	8	3	16188	N22 E25	105	900	2.0								
79	8	4	16188	N21 E12	105	1000	2.0								
79	8	5	16188	N21 W01	104	1000	1.5								
79	8	6	16188	N21 W15	105	1100	2.0								
79	8	7	16188	N22 W28	104	1300	2.0								
79	8	8	16188	N21 W41	104	1300	2.0								
79	8	9	16188	N21 W54	105	1300	2.0								
79	8	10	16188	N20 W67	104	1200	1.5								
79	8	11	16188	N20 W80	104	1000	1.5								

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MCMATH REGION 16187 CMP DATE 5.7 RETURN OF PART OF REGION 16124 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	30	16187	S17 E88	97	800	1.5									
79	7	31	16187	S17 E69	102	400	1.5									
79	8	1	16187	S16 E58	99	400	1.5									
79	8	2	16187	S16 E43	99	500	1.5									
79	8	3	16187	S15 E28	102	500	1.0									
79	8	4	16187	S15 E15	102	300	1.0									
79	8	5	16187	S14 E02	101	300	1.5									
79	8	6	16187	S14 W10	100	400	1.5									
79	8	7	16187	S14 W23	99	400	1.0									
79	8	8	16187	S14 W35	98	300	1.0									
79	8	9	16187	S14 W48	99	300	1.0									
79	8	10	16187	S14 W62	99	300	1.0		S16 W74			H	20	1	AXX	

MCMATH REGION 16189 CMP DATE 6.3 RETURN OF PART OF REGION 16123 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	7	30	16189	N22 E80	105	500	1.0									
79	7	31	16189	N20 E72	99	1000	2.0									
79	8	1	16189	N19 E61	96	1400	2.5									
79	8	2	16189	N19 E47	95	1400	2.0		N18 E47			B	10	4	BXO	
79	8	3	16189	N19 E35	95	1700	2.0									
79	8	4	16189	N19 E22	95	1600	2.5									
79	8	5	16189	N20 E09	94	1500	2.0									
79	8	6	16189	N20 W04	94	1500	2.5									
79	8	7	16189	N21 W17	93	1700	2.0									
79	8	8	16189	N20 W30	93	1700	2.0									
79	8	9	16189	N20 W42	93	1500	2.0									
79	8	10	16189	N20 W55	92	1400	2.0									
79	8	11	16189	N20 W68	92	1300	2.0									
79	8	12	16189	N19 W82	92	1000	2.0									

MCMATH REGION 16199 CMP DATE 6.5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	2	16199	N08 E52	90	100	1.5									

MCMATH REGION 16198 CMP DATE 6.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	2	16198	N43 E51	91	200	1.5									
79	8	3	16198	N43 E40	90	100	1.5									
79	8	4	16198	N43 E27	90	200	1.5									

MCMATH REGION 16193 CMP DATE 6.8 RETURN OF PART OF REGION 16124 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	1	16193	S22 E69	88	400	1.0									
79	8	2	16193	S21 E54	88	300	1.0									
79	8	3	16193	S21 E41	89	500	1.0									
79	8	4	16193	S21 E28	89	500	1.5									
79	8	5	16193	S21 E15	88	400	1.0									
79	8	6	16193	S21 E02	88	400	1.0									
79	8	7	16193	S22 W10	86	500	1.0									
79	8	8	16193	S22 W23	86	600	1.5									
79	8	9	16193	S22 W36	87	500	1.0									
79	8	10	16193	S22 W50	87	500	1.0									
79	8	11	16193	S22 W64	88	300	1.0									

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MCMATH REGION 16194 CMP DATE 6.9 RETURN OF PART OF REGION 16125 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	1	16194	S31 E83	74	300	1.0								
79	8	2	16194	S31 E57	85	400	1.0								
79	8	3	16194	S31 E44	86	300	1.0								
79	8	4	16194	S31 E31	86	300	1.0								
79	8	5	16194	S31 E18	85	400	1.0								
79	8	6	16194	S31 E04	86	400	1.0								
79	8	7	16194	S30 W09	85	400	1.5								
79	8	8	16194	S30 W20	83	200	1.0								
79	8	9	16194	S31 W32	83	100	1.0								
79	8	10	16194	S31 W45	82	100	1.0								
79	8	11	16194	S30 W58	82	100	1.0								

MCMATH REGION 16192 CMP DATE 7.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	1	16192	S10 E85	72	1500	2.5								
79	8	2	16192	S11 E65	77	1100	3.0								
79	8	3	16192	S11 E52	78	1300	2.5								
79	8	4	16192	S11 E37	80	1200	3.0								
79	8	5	16192	S11 E23	80	1100	2.5								
79	8	6	16192	S12 E10	80	1000	2.5								
79	8	7	16192	S12 W04	80	1000	2.5								
79	8	8	16192	S12 W17	80	900	2.0								
79	8	9	16192	S12 W30	81	800	2.0								
79	8	10	16192	S12 W44	81	700	2.0								
79	8	11	16192	S12 W57	81	700	2.0								
79	8	12	16192	S12 W69	79	400	1.5								
79	8	13	16192	S10 W80	77	300	1.0								

MCMATH REGION 16191 CMP DATE 7.3 RETURN OF PART OF REGION 16127 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	1	16191	N24 E89	68	700	2.0								
79	8	2	16191	N24 E70	72	1200	3.0								
79	8	3	16191	N26 E57	73	1300	2.5	20790	N25 E53	76	(AP)	1			
79	8	4	16191	N26 E45	72	1200	2.5	20790	N26 E44	72	(B)	2			
79	8	5	16191	N26 E30	73	1000	2.5	20790	N26 E31	72	(B)	3	B	13	4 AXX
79	8	6	16191	N26 E17	73	1300	3.0	20790	N26 E15	74	B	3			
79	8	7	16191	N26 E04	72	1000	2.5	20790	N25 E03	73	(AP)	2			
79	8	8	16191	N26 W09	72	900	2.5	20790	N26 W12	74	(AP)	2	B	20	6 AXX
79	8	9	16191	N26 W22	73	700	2.5								
79	8	10	16191	N26 W36	73	700	2.5								
79	8	11	16191	N26 W49	73	700	2.0								
79	8	12	16191	N26 W62	72	700	2.5								
79	8	13	16191	N26 W75	72	500	1.5								

MCMATH REGION 16200 CMP DATE 8.4

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	3	16200	S08 E64	66	100	1.5								

MCMATH REGION 16202 CMP DATE 8.5

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	4	16202	N21 E52	65	300	2.0								

MCMATH REGION 16212 CMP DATE 8.6

			CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	8	16212	N19 E00	63	200	2.0								
79	8	9	16212	N19 W12	63	100	1.5								

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MCMATH REGION 16204 CMP DATE 8.8 RETURN OF PART OF REGION 16127 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	3	16204	N30 E75	55	600	2.0							
79	8	4	16204	N30 E60	57	600	1.5							
79	8	5	16204	N30 E45	58	600	1.0							
79	8	6	16204	N28 E30	60	700	2.0							
79	8	7	16204	N29 E15	61	800	1.5							
79	8	8	16204	N29 E03	60	800	1.5							
79	8	9	16204	N30 W09	60	600	1.5							
79	8	10	16204	N30 W21	58	700	1.5							
79	8	11	16204	N30 W32	56	700	1.5							
79	8	12	16204	N30 W45	55	700	1.5							
79	8	13	16204	N31 W58	55	700	1.5							
79	8	14	16204	N32 W70	56	500	1.5							

MCMATH REGION 16201 CMP DATE 9.8 RETURN OF REGION 16133 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	3	16201	N12 E84	46	300	2.0							
79	8	4	16201	N12 E71	46	1600	2.5							
79	8	5	16201	N21 E58	45	1800	3.0							
79	8	6	16201	N12 E43	47	1800	3.0							
79	8	7	16201	N13 E29	47	1600	3.0							
79	8	8	16201	N13 E16	47	1800	2.5	20803	N13 E19	43	(AP)	2		
79	8	9	16201	N14 E04	47	1600	2.5	20803	N13 E05	45	(AF)	2	8 10	1 AXX
79	8	10	16201	N14 W10	47	1600	2.5							
79	8	11	16201	N14 W24	48	1200	2.0							
79	8	12	16201	N14 W37	47	1200	2.0							
79	8	13	16201	N14 W50	47	1400	2.0							
79	8	14	16201	N14 W63	49	1400	2.0							
79	8	15	16201	N14 W76	48	1000	1.0							

MCMATH REGION 16203 CMP DATE 9.8 RETURN OF REGION 16150 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	3	16203	S27 E85	45	200	1.0							
79	8	4	16203	S29 E72	45	200	1.5							
79	8	5	16203	S28 E56	47	200	1.0							
79	8	6	16203	S28 E44	46	300	1.5							
79	8	7	16203	S28 E31	45	500	1.0							
79	8	8	16203	S27 E18	45	600	2.0							
79	8	9	16203	S27 E04	47	700	1.5							
79	8	10	16203	S27 W11	48	400	1.5							
79	8	11	16203	S27 W24	48	400	1.0							
79	8	12	16203	S27 W36	46	300	1.0							
79	8	13	16203	S27 W48	45	200	1.0							

MCMATH REGION 16209 CMP DATE 10.3

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	7	16209	S13 E36	40	300	2.0							
79	8	8	16209	S13 E23	40	500	1.5							
79	8	9	16209	S13 E10	41	300	1.5							
79	8	10	16209	S13 W04	41	300	1.0							
79	8	11	16209	S13 W17	41	400	1.0							
79	8	12	16209	S12 W30	40	300	1.0							
79	8	13	16209	S12 W43	40	300	1.5							
79	8	14	16209	S12 W55	41	300	1.0							

MCMATH REGION 16216 CMP DATE 11.0

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	10	16216	N16 E05	32	200	2.0							
79	8	11	16216	N16 W09	33	200	1.5							
79	8	12	16216	N16 W22	32	200	1.5							

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MCMATH REGION 16206 CMP DATE 11.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	5	16206	S27 E76	27	1000	3.0									
79	8	6	16206	S26 E60	30	1600	3.5									
79	8	7	16206	S26 E46	30	1500	3.0									
79	8	8	16206	S25 E34	29	1500	2.5									
79	8	9	16206	S25 E22	29	1400	2.5									
79	8	10	16206	S25 E09	28	1400	2.5									
79	8	11	16206	S26 W04	28	1400	2.5		S26 W06				B	10	1	AXX
79	8	12	16206	S25 W17	27	1300	3.0		S25 W21				B	10	2	BXO
79	8	13	16206	S25 W30	27	1200	2.5									
79	8	14	16206	S25 W43	29	1000	2.5									
79	8	15	16206	S25 W56	28	900	2.0									
79	8	16	16206	S25 W69	28	800	2.5									

MCMATH REGION 16205 CMP DATE 11.4 RETURN OF REGION 16154 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	5	16205	S16 E83	20	800	3.0	20794	S14 E73	30	(AP)	3				
79	8	6	16205	S16 E65	25	2000	3.0	20794	S15 E59	30	AP	4				
79	8	7	16205	S16 E50	26	2000	3.0	20794	S15 E47	29	(BP)	4				
79	8	8	16205	S16 E37	26	2000	2.5	20794	S17 E34	28	(BP)	4				
79	8	9	16205	S16 E25	26	1400	2.0	20794	S15 E22	28	(AP)	4	B	70	3	CSO
79	8	10	16205	S16 E11	26	1100	2.5	20794	S15 E09	28	(AP)	4	H	80	1	HSX
79	8	11	16205	S16 W02	26	1100	2.5		S15 W04				B	70	4	CSO
79	8	12	16205	S16 W14	24	1000	3.0	20794	S15 W18	27	AP	4	B	50	1	HSX
79	8	13	16205	S16 W27	24	1000	2.5	20794	S15 W30	26	(AP)	3	H	50	1	HSX
79	8	14	16205	S15 W40	26	1000	2.5	20794	S16 W42	27	(AP)	3	R	50	3	CSO
79	8	15	16205	S15 W54	26	900	2.5	20794	S15 W56	28	(AP)	3	R	20	4	BXO
79	8	16	16205	S16 W67	26	800	2.5									

MCMATH REGION 16213 CMP DATE 12.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	6	16213	N14 E88	2	500	1.0									
79	8	7	16213	N15 E70	6	400	2.0									
79	8	8	16213	N16 E60	3	600	2.0									
79	8	9	16213	N16 E48	3	500	2.0									
79	8	10	16213	N16 E34	3	700	2.0									
79	8	11	16213	N16 E20	4	400	1.0									
79	8	12	16213	N16 E05	5	200	1.0									
79	8	13	16213	N16 W08	5	200	2.0	20810	N07 W08	4	(AP)	2				

MCMATH REGION 16207 CMP DATE 13.1 RETURN OF REGION 16160 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	6	16207	N24 E85	5	1000	3.0									
79	8	7	16207	N26 E71	5	2200	3.5	20800	N26 E72	4	(B)	3				
79	8	8	16207	N26 E59	4	2000	3.0	20800	N27 E60	2	(B)	4	B	190	12	DSO
79	8	9	16207	N26 E46	5	1700	2.5	20800	N26 E47	3	(B)	3	B	80	6	DAO
79	8	10	16207	N25 E33	4	2200	3.0	20800	N26 E34	3	(B)	4				
79	8	11	16207	N25 E20	4	2500	2.5		N22 E19				B	10	2	BXO
79	8	12	16207	N26 E07	3	2500	3.0	20800	N27 E10	0	AP	3	B	10	2	BXO
79	8	13	16207	N27 W06	3	2400	2.5	20800	N26 W04	0	(BF)	3	H	30	1	HSX
79	8	14	16207	N27 W18	4	2500	2.5	20800	N28 W13	358	(BY)	3	R	30	7	CRO
79	8	15	16207	N27 W32	4	2700	2.5	20800	N29 W26	358	(AF)	2	R	10	1	AXX
79	8	16	16207	N27 W46	5	2700	3.0									
79	8	19	16207	N27 W80	359	1800	2.0									

MCMATH REGION 16211 CMP DATE 13.9 RETURN OF REGION 16137 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	7	16211	S25 E85	352	700	2.0									
79	8	8	16211	S25 E70	354	1600	2.5									
79	8	9	16211	S26 E56	356	1400	2.5									
79	8	10	16211	S27 E44	354	1400	2.5									
79	8	11	16211	S27 E30	355	1400	2.5									
79	8	12	16211	S27 E17	354	1500	2.5		S25 E19				B	0	1	AXX

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MCMATH REGION 16211 (CONT) CMP DATE 13.9 RETURN OF REGION 16137 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	13	16211	S26 E04	354	1100	2.0								
79	8	14	16211	S26 W09	355	1200	2.0	20813	S26 W13	358	AP	1			
79	8	15	16211	S26 W22	354	1200	2.0								
79	8	16	16211	S26 W35	354	1200	2.5								
79	8	19	16211	S27 W75	354	1200	2.0								

MCMATH REGION 16208 CMP DATE 14.3 RETURN OF REGIONS 16161 AND 16165 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	7	16208	N15 E85	352	1500	3.0	20801	N14 E80	357	(X)	4			
79	8	8	16208	N15 E75	349	3800	3.5	20801	N14 E70	353	(D)	3			
79	8	9	16208	N15 E63	349	3800	3.5	20801	N14 E51	0	(BY)	5			
79	8	10	16208	N15 E50	348	4200	3.0	20801	N14 E44	354	(BY)	5			
79	8	11	16208	N15 E36	349	4200	3.0								
79	8	12	16208	N15 E22	349	4000	3.5	20801	N15 E16	354	(BY)	4	B	480	21 DAI
79	8	13	16208	N16 E09	349	4000	3.0	20801	N14 E04	353	(BY)	5	M	500	22 DKC
79	8	14	16208	N16 W04	350	4000	3.0	20801	N15 W08	353	(D)	5	R	300	64 EKI
79	8	15	16208	N16 W17	349	4000	3.0	20801	N15 W23	355	(D)	5	R	280	35 DKI
79	8	16	16208	N16 W32	351	4000	3.0	20801	N15 W35	354	(BY)	4	B	180	14 DSI
79	8	17	16208					20801	N14 W45	350	(AP)	4	B	140	8 CSO
79	8		16208					20820	N14 W35	340	(B)	3	B	10	2 BXO
79	8	18	16208					20801	N13 W59	351	(AP)	4	B	110	4 CSO
79	8		16208					20820	N13 W51	343	(AP)	2			
79	8	19	16208	N16 W70	349	4000	3.5	20801	N13 W72	351	(AP)	3			
79	8		16208					20820	N13 W62	341	(D)	2			
79	8	20	16208					20820	N14 W75	341	(B)	2			
79	8	21	16208	N14 W89	342	600	2.5								

MCMATH REGION 16210 CMP DATE 14.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	7	16210	N33 E87	350	900	2.0								
79	8	8	16210	N34 E73	351	1500	2.0								
79	8	9	16210	N34 E61	351	1100	2.0								
79	8	10	16210	N34 E47	351	1300	2.0								
79	8	11	16210	N34 E34	351	1500	2.0		N31 E32				B	0	1 AXX
79	8	12	16210	N34 E21	350	1300	2.0								
79	8	13	16210	N34 E09	349	1300	2.0								
79	8	14	16210	N34 W04	350	1300	2.0								
79	8	15	16210	N34 W17	349	1400	2.0								
79	8	16	16210	N34 W29	348	1300	2.0								
79	8	19	16210	N34 W66	345	1000	2.0								

MCMATH REGION 16219 CMP DATE 15.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD.	L	MAG.	H	STA	AREA	CNT CLASS
79	8	11	16219	S19 E48	337	300	2.0								
79	8	12	16219	S19 E35	336	300	2.0								
79	8	13	16219	S19 E23	335	400	1.5								
79	8	14	16219	S19 E11	335	200	1.0								
79	8	15	16219	S19 W03	335	100	1.0								
79	8	16	16219	S19 W16	335	200	1.0								
79	8	19	16219	S19 W55	334	200	1.0								

MCMATH REGION 16234 CMP DATE 16.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	19	16234	S22 W47	326	200	1.5								

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HCMATH REGION 16215 CMP DATE 16.2 RETURN OF REGION 16139 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	9	16215	N32 E90	322	300	1.0								
79	8	10	16215	N30 E74	324	800	1.5								
79	8	11	16215	N30 E60	325	700	1.5								
79	8	12	16215	N30 E47	324	700	2.0								
79	8	13	16215	N30 E34	324	900	1.5								
79	8	14	16215	N30 E22	324	1100	1.0								
79	8	15	16215	N31 E09	323	1200	2.0								
79	8	16	16215	N31 W05	324	1200	1.5								
79	8	19	16215	N29 W45	324	1100	1.5								

HCMATH REGION 16217 CMP DATE 16.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	11	16217	S20 E63	322	300	2.0								
79	8	12	16217	S20 E49	322	100	2.0								
79	8	13	16217	S20 E35	323	100	2.0								
79	8	14	16217	S20 E23	323	100	1.0								

HCMATH REGION 16223 CMP DATE 17.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	12	16223	S02 E64	307	300	1.5								
79	8	13	16223	S03 E51	307	200	1.5								
79	8	14	16223	S02 E38	308	200	1.0								
79	8	15	16223	S02 E24	308	100	1.0								
79	8	16	16223	S02 E10	309	200	1.0								
79	8	19	16223	S02 W30	309	300	1.0								
79	8	21	16223	S02 W55	308	200	1.0								

HCMATH REGION 16218 CMP DATE 18.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	11	16218	N14 E85	308	700	2.0								
79	8	12	16218	N16 E74	297	1800	2.5	20809	N16 E70	300	AP	3	B	60	1 HSX
79	8	13	16218	N16 E62	296	1700	2.5	20809	N14 E62	295	(AP)	3			
79	8	14	16218	N16 E50	296	1600	2.5	20809	N17 E46	299	(AP)	4	R	60	1 HSX
79	8	15	16218	N17 E36	296	1600	2.0	20809	N17 E32	300	(AP)	5	R	90	3 CSO
79	8		16218					20816	N18 E20	312	(B)	3			
79	8	16	16218	N17 E21	298	1600	3.0	20809	N17 E18	301	(AP)	4	B	90	1 HSX
79	8	17	16218					20809	N16 E05	300	(BP)	4	B	90	3 CSO
79	8		16218					20821	N16 W06	311	(AP)	2			
79	8	18	16218					20809	N17 W07	299	(AP)	4	B	70	4 CSO
79	8	19	16218	N17 W19	298	1800	2.5	20809	N16 W21	300	(BF)	4			
79	8	20	16218					20809	N16 W34	300	(AP)	3			
79	8	21	16218	N17 W44	297	1600	3.0	20809	N17 W46	299	(AP)	3	B	30	2 HRX
79	8	22	16218	N17 W57	297	1600	2.5	20809	N17 W60	299	(AP)	3	B	20	2 AXX
79	8	23	16218	N17 W72	296	1400	2.5								
79	8	24	16218	N17 W85	298	1200	1.0								

HCMATH REGION 16220 CMP DATE 18.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	12	16220	S22 E75	296	300	2.0	20808	S22 E67	303	AP	2	B	0	1 AXX
79	8	13	16220	S22 E61	297	200	2.0	20808	S22 E55	302	(AP)	2			

HCMATH REGION 16221 CMP DATE 18.2 RETURN OF REGION 16166 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT CLASS
79	8	12	16221	S07 E80	291	500	2.5								
79	8	13	16221	S07 E66	292	1300	3.0	20812	S07 E65	292	(AP)	1			
79	8	14	16221	S07 E54	292	1100	2.5	20812	S07 E50	295	(B)	2	R	20	4 BXO
79	8	15	16221	S07 E38	294	1100	2.5	20812	S07 E37	295	(AP)	2	R	10	3 BXO

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MCMATH REGION 16221 (CONT) CMP DATE 18.2 RETURN OF REGION 16166 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	16	16221	S06 E24	295	1100	2.5									
79	8	19	16221	S07 W18	297	1000	2.5	20824	S09 W22	301	(AF)	1				
79	8	21	16221	S07 W44	297	1000	2.5									
79	8	22	16221	S07 W59	299	700	2.0									
79	8	23	16221	S07 W71	295	300	1.0									

MCMATH REGION 16225 CMP DATE 18.8

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	14	16225	S24 E55	291	700	3.5	20814	S24 E52	293	(B)	4	R	80	10	DAO
79	8	15	16225	S24 E41	291	1400	3.0	20814	S23 E39	293	(D)		R	200	11	DAO
79	8	16	16225	S24 E28	291	1500	3.0	20814	S24 E26	293	(BP)	4	B	160	11	DSO
79	8	17	16225					20814	S24 E14	291	(BP)	3	B	80	10	CSI
79	8	18	16225					20814	S24 E02	290	(BP)	4	B	80	9	DAI
79	8	19	16225	S24 W10	289	800	2.5	20814	S24 W13	292	(AP)	4	B	70	5	CSO
79	8	20	16225					20814	S24 W25	291	(BP)	4	B	30	1	HSX
79	8	21	16225	S24 W35	288	600	2.5	20814	S24 W38	291	(BP)	3	B	30	1	HSX
79	8	22	16225	S24 W48	288	600	2.0	20814	S24 W51	290	(AP)	3	B	40	1	HSX
79	8	23	16225	S24 W62	286	500	1.5	20814	S25 W65	290	(AP)	2				
79	8	24	16225	S24 W75	288	300	1.0	20814	S24 W76	289	(AP)	2				

MCMATH REGION 16242 CMP DATE 19.0

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	21	16242	S15 W34	287	400	2.5	20839	S15 W34	287	(B)	3	B	10	2	BXO
79	8	22	16242	S15 W47	287	500	2.5	20839	S14 W45	284	(AF)	2	B	10	2	AXX
79	8	23	16242	S15 W61	285	400	2.5	20839	S15 W63	288	(AP)	2	B	0	1	AXX
79	8	24	16242	S15 W72	285	400	2.0									

MCMATH REGION 16222 CMP DATE 19.3 RETURN OF REGION 16156 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	12	16222	N32 E77	294	300	1.0									
79	8	13	16222	N33 E72	286	600	1.5									
79	8	14	16222	N31 E60	286	800	1.5									
79	8	15	16222	N30 E47	285	1000	1.5									
79	8	16	16222	N32 E32	287	800	1.5									
79	8	19	16222	N33 W04	283	700	1.5									
79	8	21	16222	N33 W29	282	700	1.5									

MCMATH REGION 16229 CMP DATE 19.7

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	18	16229					20822	N25 E14	278	(B)	3	B	40	8	CRI
79	8	19	16229	N27 E02	277	600	2.5	20822	N26 E01	278	(BP)	4	B	90	9	DAO
79	8	20	16229					20822	N26 W13	279	(BP)	4	B	80	12	CSO
79	8	21	16229	N27 W26	279	1400	3.0	20822	N26 W26	279	(BP)	4				
79	8	22	16229	N27 W38	278	1400	3.0	20822	N26 W40	279	(BP)	4	B	80	7	CSO
79	8	23	16229	N27 W54	278	1500	3.0	20822	N25 W56	281	(AP)	4				
79	8	24	16229	N27 W67	280	1200	3.0	20822	N25 W68	280	(AP)	3	B	50	1	HSX
79	8	25	16229	N27 W78	279	1200	2.5	20822	N25 W80	280	(AP)	3				

MCMATH REGION 16224 CMP DATE 20.0

CALCIUM PLAGE DATA — SUNSPOT DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	13	16224	S28 E90	268	600	2.0									
79	8	14	16224	S28 E77	269	4000	4.0	20815	S25 E69	276	(X)	3	R	530	27	EKC
79	8	15	16224	S27 E63	269	5000	4.0	20815	S26 E56	276	(B)	5	R	480	35	EKI
79	8	16	16224	S26 E45	274	4800	3.5	20815	S26 E43	276	(BY)	5	B	650	22	EKI
79	8	17	16224					20815	S26 E31	274	(BY)	5	B	690	56	EKI
79	8	18	16224					20815	S26 E18	274	(D)	5	B	740	40	EKI
79	8	19	16224	S26 E06	273	4600	3.0	20815	S26 E06	273	(D)	5	B	710	54	EKI
79	8	20	16224					20815	S26 W07	273	(BY)	5	B	680	19	EKO

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MCMATH REGION 16224 (CONT) CMP DATE 20.6

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	21	16224	S26 W19	272	4800	3.5	20815	S26 W20	273	(BY)	5	B	710	17	EHO
79	8	22	16224	S26 W31	271	4500	3.0	20815	S26 W32	271	(BY)	5	B	680	15	EHO
79	8	23	16224	S26 W45	269	4500	3.0	20815	S26 W46	271	(B)	3	B	390	9	ESO
79	8	24	16224	S26 W58	271	4000	2.5	20815	S26 W58	270	(BP)	3				
79	8	25	16224	S26 W70	271	4000	2.0	20815	S26 W70	270	(BP)	3				
79	8	26	16224	S26 W84	271	1900	2.0									

MCMATH REGION 16227 CMP DATE 20.0 RETURN OF REGION 16153 ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	14	16227	N11 E74	272	600	1.0									
79	8	15	16227	N11 E61	271	1000	1.5									
79	8	16	16227	N12 E47	272	800	1.0									
79	8	19	16227	N12 E06	273	700	1.0									
79	8	21	16227	N13 W19	272	700	1.0									
79	8	22	16227	N13 W30	270	700	1.0									
79	8	23	16227	N12 W46	270	600	1.0									
79	8	24	16227	N12 W60	273	600	1.0									
79	8	25	16227	N13 W72	273	600	1.0									

MCMATH REGION 16243 CMP DATE 20.6

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16243					20827	S14 E15	264	(B)	3				
79	8	20	16243					20827	S14 E00	266	(AP)	2				
79	8	21	16243	S13 W13	266	500	2.0	20827	S13 W14	267	(AP)	2				
79	8	22	16243	S13 W26	266	600	2.0	20827	S13 W26	265	(AP)	2	B	0	2	BXO
79	8	23	16243	S13 W41	265	400	2.0	20827	S14 W40	265	(AF)	2	B	0	1	AXX
79	8	24	16243	S13 W54	267	500	2.0									
79	8	25	16243	S13 W66	267	800	3.0	20849	S12 W68	268	(B)	3	B	30	4	BXO
79	8	26	16243	S13 W80	267	500	2.0									

MCMATH REGION 16244 CMP DATE 20.7

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	21	16244	N27 W11	264	300	2.5									
79	8	22	16244	N28 W25	265	300	3.0									
79	8	23	16244	N28 W41	265	600	2.5									
79	8	24	16244	N28 W53	266	600	3.0									
79	8	25	16244	N28 W64	265	500	3.0									
79	8	26	16244	N28 W77	264	800	2.5	20850	N26 W80	267	AP	1	B	0	1	AXX

MCMATH REGION 16232 CMP DATE 21.2

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	14	16232	N20 E80	266	300	1.0									
79	8	15	16232	N20 E70	262	1200	2.5	20817	N17 E76	256	(AP)	3	R	70	1	HSX
79	8	16	16232	N20 E58	261	1000	2.0	20817	N17 E63	256	(AP)	4	B	90	1	HSX
79	8	17	16232					20817	N17 E49	256	(AP)	4	B	70	1	HSX
79	8	18	16232					20817	N17 E37	255	(AP)	4	B	70	1	HSX
79	8	19	16232	N20 E23	256	1100	2.0	20817	N16 E24	255	(AP)	3				
79	8	20	16232					20817	N17 E11	255	(AP)	4				
79	8	21	16232	N21 W04	257	1200	2.0	20817	N17 W02	255	(AP)	4	B	40	3	HAX
79	8	22	16232	N21 W17	257	1300	1.5	20817	N16 W15	254	(AP)	3	B	10	2	AXX
79	8	23	16232	N20 W31	255	1200	1.5	20817	N17 W29	254	(AP)	3	B	10	2	AXX
79	8	24	16232	N21 W44	257	1300	1.5									
79	8	25	16232	N22 W57	258	1000	1.5									
79	8	26	16232	N21 W69	256	900	1.0									
79	8	27	16232	N22 W80	253	800	1.5									

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MCMATH REGION 16231 CMP DATE 22.2 RETURN OF REGION 16164 ROTATION 2

			CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	15	16231	S16 E80	252	2400	3.0	20818	S15 E67	265	(AP)	2	R	10	1	AXX
79	8	16	16231	S16 E69	250	3500	3.5	20818	S14 E55	264	(AP)	2				
79	8		16231					20819	S15 E68	251	(AF)	2				
79	8	17	16231					20818	S14 E40	265	(AP)	2				
79	8		16231					20819	S15 E55	250	(AF)	2				
79	8	19	16231	S16 E30	249	3000	3.0	20830	S16 E42	237	(B)	2				
79	8	20	16231					20830	S15 E29	237	(B)	3				
79	8		16231					20838	S15 E14	252	(BP)	3				
79	8	21	16231	S16 E08	245	3000	3.0	20830	S15 E15	238	(BP)	3	B	0	2	BXO
79	8		16231					20838	S15 E01	252	(BP)	3	B	50	9	CAO
79	8	22	16231	S16 W06	246	3200	3.0	20830	S14 W01	240	(AP)	3	B	0	1	AXX
79	8		16231					20838	S15 W13	252	(B)	4	B	50	12	CSO
79	8	23	16231	S16 W22	246	2800	3.0	20838	S15 W26	251	(BP)	3	B	100	10	DSO
79	8	24	16231	S16 W34	247	2600	3.5	20838	S15 W40	252	(B)	3				
79	8	25	16231	S16 W47	248	2800	3.0	20838	S14 W55	255	(B)	2				
79	8	26	16231	S16 W60	247	2600	2.5									
79	8	27	16231	S16 W73	246	1300	2.5									
79	8	28	16231	S15 W88	247	600	1.0									

MCMATH REGION 16233 CMP DATE 22.5

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	16	16233	N07 E85	234	300	2.5									
79	8	19	16233	N07 E41	238	200	2.5									
79	8	21	16233	N07 E13	240	500	3.0									
79	8	22	16233	N07 E01	239	300	2.5									
79	8	23	16233	N08 W15	239	300	1.5									
79	8	24	16233	N07 W27	240	200	1.0									
79	8	25	16233	N08 W40	241	100	1.0									

MCMATH REGION 16236 CMP DATE 23.0 RETURN OF REMNANTS OF REGION 16167 ROTATION 4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16236	N20 E46	233	600	2.0									
79	8	21	16236	N20 E18	235	400	1.0									
79	8	22	16236	N20 E06	234	300	1.0									
79	8	23	16236	N20 W09	233	400	1.0									
79	8	24	16236	N20 W21	233	300	1.0									
79	8	25	16236	N20 W32	233	300	1.0									
79	8	26	16236	N20 W44	231	300	1.0									
79	8	27	16236	N20 W57	230	300	1.0									

MCMATH REGION 16257 CMP DATE 24.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	27	16257	N14 W45	218	100	1.5									
79	8	28	16257	N14 W60	219	100	1.0									

MCMATH REGION 16240 CMP DATE 24.4 RETURN OF REGION 16169 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16240	S16 E66	213	2800	3.5	20832	S14 E55	224	(B)	2				
79	8	20	16240					20832	S13 E41	225	(B)	2				
79	8	21	16240	S17 E36	217	5200	3.5	20832	S13 E30	223	(B)	3	B	30	8	CRO
79	8	22	16240	S17 E23	217	5000	3.0	20832	S14 E16	223	(D)	4	B	10	11	DRO
79	8	23	16240	S17 E09	215	4200	3.0	20832	S13 E03	222	(D)	3				
79	8	24	16240	S17 W03	216	3700	3.0	20832	S13 W13	225	(D)	3				
79	8	25	16240	S17 W15	216	3500	2.5	20832	S13 W25	225	(B)	3				
79	8	26	16240	S17 W28	215	3500	2.5	20832	S13 W38	225	(AP)	3	B	20	3	AXX
79	8	27	16240	S17 W40	213	3500	2.5	20832	S12 W52	225	(AP)	2				
79	8	28	16240	S17 W53	212	3200	2.5	20832	S12 W66	225	AP	1				
79	8	29	16240	S18 W68	212	2400	2.0									
79	8	30	16240	S19 W76	210	1800	1.0									

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MCMATH REGION 16237 CMP DATE 25.4 RETURN OF REGION 16196 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16237	N27 E78	201	1000	3.0									
79	8	21	16237	N27 E49	204	2000	2.5									
79	8	22	16237	N27 E36	204	1800	2.5									
79	8	23	16237	N27 E20	204	1400	2.5									
79	8	24	16237	N27 E10	203	1200	2.5		N29 E09				B	0	1	AXX
79	8	25	16237	N27 W01	202	1300	2.5									
79	8	26	16237	N27 W14	201	1300	2.0		N28 W21				B	0	2	AXX
79	8	27	16237	N27 W27	200	1300	2.0									
79	8	28	16237	N27 W41	200	1100	2.0									
79	8	29	16237	N27 W57	201	900	2.0									
79	8	30	16237	N27 W65	199	1000	1.5									
79	8	31	16237	N27 W77	199	700	1.5	20859	N27 W70	190	B	1	B	10	1	AXX
79	9	01	16237	N27 W88		200	1.5									

MCMATH REGION 16254 CMP DATE 26.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	27	16254	S21 W20	193	100	1.5									
79	8	28	16254	S21 W34	193	300	1.5									
79	8	29	16254	S21 W49	193	200	1.0									
79	8	30	16254	S20 W59	193	200	1.0									

MCMATH REGION 16239 CMP DATE 26.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16239	N06 E87	192	1700	3.5	20835	N04 E80	199	(X)	3				
79	8	20	16239					20835	N05 E71	195	(D)	4				
79	8	21	16239	N06 E61	192	6000	3.5	20835	N05 E60	193	(D)	5	B	1230	20	FKI
79	8	22	16239	N06 E47	193	5600	3.5	20835	N05 E45	194	(D)	5	B	1340	33	FKI
79	8	23	16239	N06 E32	192	5800	3.0	20835	N05 E33	192	(D)	5	B	1230	40	FKI
79	8	24	16239	N06 E21	192	5200	3.0	20835	N05 E19	193	(D)	5				
79	8	25	16239	N06 E09	192	5300	3.5	20835	N06 E07	193	(D)	5	B	1040	51	FKI
79	8	26	16239	N06 W05	192	5500	3.5	20835	N06 W07	194	(D)	5	B	1040	56	FKI
79	8	27	16239	N06 W18	191	5500	3.5	20835	N06 W19	192	(D)	5	B	820	47	FKI
79	8	28	16239	N06 W34	193	5500	3.0	20835	N06 W33	192	(D)	5	H	720	37	FKI
79	8	29	16239	N06 W50	194	5500	3.5	20835	N06 W47	193	(D)	4	B	550	22	FKI
79	8	30	16239	N06 W60	194	5800	3.0	20835	N06 W60	193	(D)	4	B	360	10	FHO
79	8	31	16239	N06 W72	194	5800	3.0	20835	N06 W71	191	(D)	4				
79	9	01	16239	N06 W85		4500	3.0	20835	N06 W86		(AP)	3				

MCMATH REGION 16238 CMP DATE 26.3 RETURN OF REGION 16171 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16238	N18 E83	196	800	1.5									
79	8	21	16238	N18 E63	190	3000	2.0									
79	8	22	16238	N18 E51	189	3000	2.5									
79	8	23	16238	N19 E35	189	2800	2.5	20845	N18 E44	181	(B)	2	B	10	2	AXX
79	8	24	16238	N19 E23	190	2700	3.0	20845	N18 E28	184	(D)	4	B	180	22	DAI
79	8	25	16238	N18 E10	191	2900	3.0	20845	N18 E17	183	(B)	4				
79	8	26	16238	N18 W02	189	3000	2.5	20845	N18 E04	183	(B)	4	B	260	12	DKC
79	8	27	16238	N19 W15	188	3200	3.0	20845	N18 W09	182	(D)	4				
79	8	28	16238	N19 W29	188	2800	2.5	20845	N18 W24	183	(B)	4				
79	8	29	16238	N19 W44	188	2700	3.0	20845	N18 W37	183	(B)	3				
79	8	30	16238	N19 W53	187	2400	3.0	20845	N18 W50	183	(BP)	4				
79	8	31	16238	N19 W66	188	2400	3.0	20845	N18 W62	182	(AF)	3	B	60	5	CRO
79	9	01	16238	N19 W78		800	3.0									
79	9	02	16238	N18 W89		500	2.5									

MCMATH REGION 16248 CMP DATE 26.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	24	16248	S10 E24	189	100	2.5	20847	S10 E22	190	(B)	3				
79	8	25	16248	S10 E11	190	300	2.0	20847	S10 E08	192	(B)	4	B	30	3	CRO
79	8	26	16248	S10 W03	190	300	2.0	20847	S10 W06	193	(B)	3	B	20	4	BXO
79	8	27	16248	S10 W17	190	400	2.0	20847	S10 W16	189	(AF)	2	B	10	1	AXX
79	8	28	16248	S10 W31	190	400	2.0	20847	S09 W26	185	(AP)	1				

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MCMATH REGION 16248 (CONT) CMP DATE 26.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	29	16248	S10 W48	192	500	2.0									
79	8	30	16248	S10 W58	192	300	2.5									
79	8	31	16248	S09 W71	193	300	1.5									

MCMATH REGION 16241 CMP DATE 26.4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	19	16241	S31 E85	194	600	1.5	20836	S33 E80	199	(X)	2				
79	8	20	16241					20836	S32 E65	201	(AP)	3				
79	8	21	16241	S32 E60	193	2400	3.5	20836	S31 E56	197	(B)	4	B	330	5	DKO
79	8	22	16241	S32 E49	191	2800	3.5	20836	S31 E44	195	(B)	5	B	660	11	EKI
79	8	23	16241	S31 E33	191	3400	3.5	20836	S31 E32	193	(D)	5	B	780	13	EHO
79	8	24	16241	S32 E22	191	4000	3.0	20836	S31 E19	193	(D)	5				
79	8	25	16241	S32 E12	189	4500	3.0	20836	S31 E07	193	(B)	5				
79	8	26	16241	S33 E00	187	4400	3.0	20836	S32 W05	192	(B)	5	B	570	17	EHO
79	8	27	16241	S33 W13	186	4200	3.0	20836	S32 W18	191	(D)	4	B	560	18	EKO
79	8	28	16241	S33 W27	186	4000	3.0	20836	S32 W32	191	(B)	4	M	420	9	EHO
79	8	29	16241	S33 W41	185	4200	3.0	20836	S32 W45	191	(B)	4	B	390	6	EKO
79	8	30	16241	S33 W50	184	3800	2.5	20836	S32 W57	190	(B)	4	B	340	7	EHO
79	8	31	16241	S33 W62	184	3500	2.5	20836	S32 W67	187	(B)	4	B	300	7	EHO
79	9	01	16241	S33 W78		1300	2.5	20836	S32 W76		(AP)	1				

MCMATH REGION 16249 CMP DATE 27.2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	24	16249	S10 E34	179	100	1.5									
79	8	25	16249	S10 E22	179	100	1.0									
79	8	26	16249	S10 E09	178	100	1.0									
79	8	27	16249	S10 W05	178	100	1.0									

MCMATH REGION 16250 CMP DATE 27.3

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	24	16250	N05 E36	177	100	2.0									
79	8	25	16250	N05 E24	177	100	1.5									

MCMATH REGION 16245 CMP DATE 28.1 RETURN OF PART OF REGION 16174 ROTATION 7

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	22	16245	S21 E72	168	1000	2.0	20841	S21 E71	168	(AP)	2	B	0	1	AXX
79	8	23	16245	S20 E58	166	1000	2.0	20841	S21 E58	167	(AP)	2				
79	8	24	16245	S20 E46	167	1000	1.0	20841	S21 E48	164	(AP)	2				
79	8	25	16245	S20 E33	168	1300	1.5	20841	S21 E35	165	(AP)	2				
79	8	26	16245	S20 E20	167	1300	1.5	20841	S21 E22	165	(AP)	3	B	10	5	AXX
79	8	27	16245	S20 E07	166	1300	1.5	20941	S21 E09	164	(AP)	2	B	20	3	BXO
79	8	28	16245	S20 W07	166	900	1.0		S14 W14				M	10	1	AXX
79	8	29	16245	S20 W23	167	1200	1.0									
79	8	30	16245	S20 W32	166	1000	1.0									
79	8	31	16245	S20 W44	166	1000	1.0									
79	9	01	16245	S20 W58		800	1.5									

MCMATH REGION 16258 CMP DATE 29.0

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	28	16258	N18 E04	155	100	1.5									
79	8	29	16258	N17 W13	157	300	2.5									
79	8	30	16258	N17 W23	157	800	3.0		N17 W23				B	110	11	DSO
79	8	31	16258	N17 W36	158	800	3.0									
79	9	01	16258	N17 W48		800	3.0	20854	N17 W50		(BP)	4	B	30	3	C
79	9	02	16258	N17 W63		800	3.0	20854	N17 W66		(BP)	4	B	40	1	H
79	9	03	16258	N17 W75		1200	3.0	20854	N17 W74		(BF)	2	B	50	4	C
79	9	04	16258	N18 W88		600	2.0									

REGIONS OF SOLAR ACTIVITY

AUGUST 1979

MCMATH REGION 16253 CMP DATE 29.3 RETURN OF PART OF REGION 16174 AND NEW ROTATIONS 7 AND 1

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	23	16253	S22 E74	150	300	1.0	20846	S21 E74	151	(AP)	2				
79	8	24	16253	S22 E62	151	300	1.0	20846	S21 E60	152	(AP)	3				
79	8	25	16253	S22 E50	151	200	1.0	20846	S21 E48	152	(AP)	3				
79	8	26	16253					20846	S21 E35	152	(AP)	4	B	40	1	HSX
79	8	27	16253	S22 E23	150	400	1.0	20846	S21 E22	151	(AP)	3	B	70	1	HSX
79	8	28	16253	S22 E08	151	200	1.0	20846	S21 E07	152	(AP)	4	H	70	5	CSO
79	8	29	16253	S22 W07	151	400	1.5	20846	S22 W06	152	(AP)	4	B	40	3	CSO
79	8	30	16253	S22 W17	151	300	2.0	20846	S22 W17	150	(B)	4	B	30	3	HSX
79	8	31	16253	S23 W28	150	400	2.5	20846	S22 W30	150	(AP)	3	B	40	4	CSO
79	9	01	16253	S22 W41		300	2.5									
79	9	02	16253	S22 W56		200	2.5	20867	S22 W57		(AP)	1				
79	9	03	16253	S21 W68		300	2.5	20867	S22 W71		(AP)	2				
79	9	04	16253	S20 W79		200	1.0									

MCMATH REGION 16246 CMP DATE 29.5 RETURN OF REGION 16176 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	23	16246	N06 E80	144	900	2.5									
79	8	24	16246	N06 E67	146	900	3.0									
79	8	25	16246	N05 E54	147	900	2.5									
79	8	26	16246	N06 E38	149	800	2.0									
79	8	27	16246	N06 E24	149	800	1.5									
79	8	28	16246	N05 E11	148	800	1.5									
79	8	29	16246	N05 W07	151	700	2.5									
79	8	30	16246	N06 W17	151	700	2.0									
79	8	31	16246	N06 W30	152	500	2.0									
79	9	01	16246	N05 W44		400	2.0									
79	9	02	16246	N06 W56		400	1.5									
79	9	03	16246	N06 W65		400	1.0									

MCMATH REGION 16247 CMP DATE 30.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	23	16247	N29 E86	138	600	2.0									
79	8	24	16247	N28 E75	138	800	1.5									
79	8	25	16247	N28 E64	137	600	1.5									
79	8	26	16247	N27 E50	137	700	1.5									
79	8	27	16247	N29 E37	136	800	1.5									
79	8	28	16247	N30 E23	136	500	1.5									
79	8	29	16247	N30 E07	137	700	2.0									
79	8	30	16247	N30 W02	136	700	1.5		N28 W03				B	40	3	CRO
79	8	31	16247	N31 W15	137	700	2.0									
79	9	01	16247	N31 W28		700	2.5									
79	9	02	16247	N32 W43		600	2.5									
79	9	03	16247	N32 W55		900	2.5									
79	9	04	16247	N32 W67		800	2.0									
79	9	05	16247	N32 W80		600	1.0									

MCMATH REGION 16251 CMP DATE 30.7

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
79	8	24	16251	S28 E80	133	900	2.5	20848	S27 E78	134	(AP)	2				
79	8	25	16251	S28 E69	132	1200	3.0	20848	S27 E65	135	(B)	3				
79	8	26	16251	S28 E56	131	1500	3.0	20848	S27 E51	136	(B)	3	B	120	4	DSO
79	8	27	16251	S28 E43	130	1900	3.0	20848	S27 E38	135	(D)	3	B	50	7	DSO
79	8	28	16251	S28 E28	131	1900	3.0	20848	S27 E25	134	(BF)	4	H	100	6	DRO
79	8	29	16251	S28 E13	131	1800	3.0	20848	S27 E13	133	(AP)	3	B	30	2	HSX
79	8	30	16251	S27 E03	131	1600	2.5	20848	S28 E02	131	(B)	3				
79	8	31	16251	S27 W09	131	1600	2.5	20848	S29 W07	127	(AP)	3	B	20	4	BXO
79	9	01	16251	S27 W21		1200	3.0									
79	9	02	16251	S27 W35		1400	3.0	20868	S25 W37		(AP)	2				
79	9	03	16251	S27 W46		1300	2.5									
79	9	04	16251	S27 W56		1600	3.0									
79	9	05	16251	S27 W70		1200	2.0									

REGIONS OF SOLAR ACTIVITY

AUGUST 1979

MCMATH REGION 16266 CMP DATE 30.7 RETURN OF REGION 16182 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
79	8	25	16266	N15 E70	131	300	1.0							
79	8	27	16266	N14 E42	131	200	1.0							
79	8	28	16266	N15 E27	132	300	1.0							
79	8	29	16266	N15 E13	131	300	1.5							
79	8	30	16266	N16 E03	131	400	1.0							
79	8	31	16266	N15 W10	132	300	1.0							
79	9	01	16266	N15 W24		400	2.0							
79	9	02	16266	N15 W38		400	1.5							
79	9	03	16266	N14 W49		400	2.0							
79	9	04	16266	N15 W62		300	1.5							
79	9	05	16266	N11 W78		300	1.0							

Note: No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on August 17, 18 and 20, 1979.
No sunspot observations were made at Mt. Wilson on August 11, 1979.

DAILY CALCIUM PLAGE INDEX

AUGUST 1979

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
79	8	1	36.6	79	8	11	33.6	79	8	21	72.3
79	8	2	37.5	79	8	12	38.0	79	8	22	71.3
79	8	3	35.9	79	8	13	34.0	79	8	23	68.7
79	8	4	35.5	79	8	14	36.0	79	8	24	63.3
79	8	5	25.9	79	8	15	43.3	79	8	25	64.1
79	8	6	32.2	79	8	16	49.0	79	8	26	57.4
79	8	7	33.4	79	8	17	*	79	8	27	59.5
79	8	8	33.8	79	8	18	*	79	8	28	51.4
79	8	9	30.8	79	8	19	45.5	79	8	29	54.3
79	8	10	34.0	79	8	20	*	79	8	30	47.0
								79	8	31	43.7

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	M_C MATH REGION
01	0858	0915	1905	1-	3	1			1				0900	16174
01	1009	1030	1015	1-	5	1		3	2		1		1008E	16175
01	1116	1210	1123	2	5	4		8	3		3		1120	16174
01	1415	1558	1429	2	5	6		4	2		7		1412	16174
01	1642	1745	1655	1-	5	2		2	2	1	9		1644	16175
01	1756	1830	1808	1-	5				1	1	4		1758	16175
01	1838	1910	1842	1-	5				2	1	5		1835E	16175
02	1228	1244	1235	1-	3			2					*	
02	1520	1545	1527	1-	1	1							1519	16191
02	2104	2132	2111	1-	1				1				2105	16171
04	2019	2052	2025	1-	5				2		3		2019	16174
05	1154	1232	1215	1-	1			1					*	
05	1251	1430	1333	1-	3			2					*	
05	1318	1415	1335	1-	1			1					*	
06	2116	2145D	2130	1-	1				1				*	
06	2143E	2254	2130	1-	1				1				*	
07	0328	0517	0354	1	1				1				*	
07	1950	2140	2014	2	5	2			2	1	9		1955E	16208
08	1737	1910	1755	1	5	2			2	1	11		1737	16208
09	1101	1143	1113	1-	1				1		1		1101	16208
09	1738	1910	1757	1-	5	1			2		8		1739	16208
10	0135	0256	0150	1	1				1				0123	16208
10	0434E	0555	0540	1-	1				1				*	
10	0912	1042	0921	1	5	2		1	1		1		0919E	16208
11	1100	1120	1111	1-	3	2							*	
11	1123	1145	1126	1-	1				1		1		1123	16208
11	1338	1353	1342	1-	1				1		1		1337	16208
11	1655	1720	1702	1-	5				1	1	3		1656	16208
12	0022	0048	0024	1-	1				1				*	
12	1230	1306	1237	1-	1			1					*	
13	0233	0304	0242	1-	1				1				0232	16208
13	1012	1100	1027	2	5	3		4	3		2		NF	
14	1138	1225	1148	1	5	3		4	2		1		NF	
14	1245	1340	1254	1	5	3		1	1		3		1243	16224
14	1554	1601	1550	1-	3				1		4		1542	16205
14	1614	1647	1621	1-	3				1		5		1612	16224
14	1700	1710D	1710	1-	5	1			1		3		1700E	16224
14	1730	1815	1740	1-	3				1		4		1728	16205
14	1905	1939	1906	1-	1						1		1902	16221
14	2011	2041	2016	1-	3				1		1		2009	16224
14	2047	2122	2100	1-	3				1		1		2048	16209
14	2148	2213D	2159	1-	3				1		1		2147	16209
14	2310	2330	2317	1-	1				1				2311	16231
14	2355	0042D	0003	1	3	1			1		1		2352	16231
15	0042E	0125	0044	1-	1				1				0041	16205
15	1315	1358	1325	1-	1				1		1		1313	16224
15	1341	1432	1416U	1-	1			1					1342E	16208
15	1525	1645	1536	2	5	4		5	2	1	11		1527	16225
16	0036	0120D	0042	1-	1				1				0036	16224
16	0454	0607D	0505	2	3	1			1				*	
16	0607E	0806	0626	2	5			2	1				0607E	16231
18	0627E	0800	0632	1+	1				1				0620	16233
18	0947	1032	1003	1	5	1		1	2				0949	16240
18	1340	1440OD	1400	2	5	7		3	2		14		NF	
18	1406	1755	1418	2	5	2		1	2		2		1400	16231
18	0529	0633	0538	1-	1				1				0530	16239
19	1258	1445	1320	1-	5	3		2	2		4		NF	
19	1537	1557	1547	1-	3						3		1536	16224
19	1756	1830	1800	1-	1						1		1758	16208
20	0053	0157	0155	1-	3	1			1				0052	16239
20	0240	0306	0249	1-	1				1				0245E	16239
20	0507	0550D	0516	1-	3	1			1				0508E	16239
20	0720	0904D	0728	1+	5	2		2	2		1		0723E	16239
20	0904E	1124	0920	3	5	5		6	2		1		0906	16239
20	1722	1730	1726	1-	5	1		1			7		1730	16239
20	1944	2010	1948	1-	5	2					6		1937	16239
20	2109	2140	2117	1-	5				1		3		2110	16240
20	2338	0040	2348	1-	5				1		2		2332	16239

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1979

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
21	0607	0713	0624	1-	5	1		1	1				0614E	16218
21	0836	1020	0848	1	5	3		3	2		1		0840	16239
21	1333	1400	1339	1-	3			2	1				1333	16224
21	1642	1754	1708	1-	5			1	1		2		1646E	16238
21	2356	0038	0009	1-	1				1				2351	16223
22	1854	1942	1920	1	3	1					4		1853	16238
22	2150	2224	2207	1-	1				1				2154	16242
22	2350	0030	2358	1-	1				1				2351	16239
23	0433	0535	0441U	1-	1			1					*	
23	0548	0633	0600	1-	1				1				0546E	16239
23	1214	1235	1221	1-	1			1					1213	16239
23	1243	1538	1316	2	5	4		6	3		9		1244	16239
23	2316	0026	2331	1-	5				1		3		2316	16239
24	1200	1250	1208	1	5	3		4	2		1		1159	16239
24	1635	1735	1700	1	5				1		7		1627	16245
24	1815	1940	1828	1-	5	1			1		9		1815	16239
24	2114	2152D	2122	1-	5				1		3		2116	16237
24	2152E	2334	2202	1-	5	1			2		4		2148	16238
25	0022	0058	0033	1-	1				1				0019	16239
25	0300	0416	0318	1-	1				1				*	
25	0754	0850	0801	1-	1				1				0747	16238
25	1343	1443	1414	1-	1				1		1		1348	16239
25	1515	1555	1524	1-	1				1		1		1511E	16231
25	1617	1708	1630	1-	5	1			1		3		1613	16224
25	1944	2054	2002	1-	5	2			3		8		1943	16239
26	0009	0040	0014	1-	1				1				0007	16238
26	0140	0330	0217	1-	3				1		1		0138	16231
26	0339	0412	0347	1-	1				1				*	
26	0506	0554	0522	1-	1				1				*	
26	0651	0753	0714	1-	1				1				0661	16239
26	0834	0914	0839	1-	3			2					0837	16241
26	1226	1330	1243	1	3				2		1		1222E	16237
26	1456	1540	1510	1-	3				1		2		1447	16252
26	1612	1635	1618	1-	1			1					1615	16239
26	1642	1735	1648	2	5	3		6	3		11		1639	16239
27	0047	0116	0051	1-	1				1				0055E	16252
27	2136	2246	2154	1-	3				1		1		2137	16252
28	0035	0106	0042	1-	1				1				0035	16239
28	0337	0410	0344	1-	1				1				0336E	16252
28	0527	0554	0535	1-	1				1				0530E	16239
28	0618	0656	0630	1-	1				1				0651	16239
28	0751	0856	0807	1-	3			1	1				0750	16252
28	0809	0845	0811	1-	3			2					0805	16239
28	0951	1153	1000	1-	3			2					0950	16252
28	1253	1315	1259	1	5	2		5	1		1		1259	16247
28	1306	1335	1312	1-	3	1					1		1301	16238
28	1803	1810D	1810	1-	1						1		1804	16239
28	1815	1823D	1823	1-	1						1		1817	16239
28	1838	1907	1845	1-	1						1		1835	16247
28	1915	1929D	1929	1-	1						1		1914	16239
28	2152	22[illegible]D	2201	1-	3				1		1		2151	16239
28	2234E	2258	2244	1-	1				1				2236	16239
29	0101	0139	0108	1-	1				1				0100	16252
29	0744	0810	0755	1	5	2		2	2		1		0740	16263
29	1655	1712	1701	1-	3						3		1651	16251
29	2252	2315	2255	1-	1						1		2252	16239
30	0038	0144	0103	1-	1				1				0047E	16238
30	1600	1700	1616	1-	5	1		1	1		3		1557E	16254
30	2357	0030	0006	1-	1				1				2354	16263
31	1335	1418	1400	1-	1						1		1340	16264

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01	1240-1645 TM
05	0700-0900 UM (16 kHz), 1455-1550 UM (16 kHz)
07	1000-1400 UM (16 kHz)
09-16	0000-2400 LO
10	0525-0632 TM, 1915-2400 TM
11-13	0000-1404 TM
14	0800-1345 UM (16 kHz)
15	1740-1930 TM
17-20	1715-1340 UM (16 kHz)
19	0000-1930 TM
21	1000-1400 UM (16 kHz)
25	1800-1953 UM (16 kHz),
27	0000-2400 TM
28	1000-1340 UM (16 kHz)
29	1530-1645 UM (13 kHz)
30-31	2200-2400 TM

STATIONS REPORTING FOR AUGUST 1979

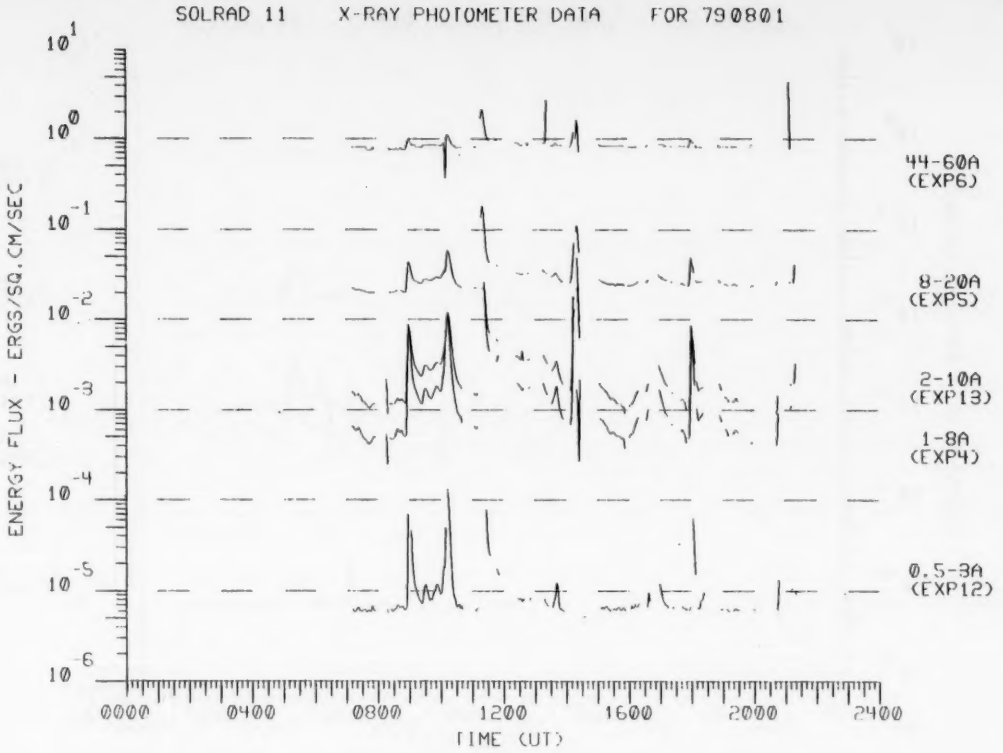
AAVSO (A1, A5, A19, A21, A26, A28, A31, A34, A68) (SES)
ELLENSBURG (EB) (SES)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JULIUSRUH (JH) (SWF)
KUHLUNGSBORN (KU) (SES, SPA)
LUCHOW (LU) (SWF)
MC MATH (MC) (SWF)
NEW JERSEY (NJ) (SES)
PANSKA VES (PU) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (UH) (SSS, SPA)
SOFIA (SF) (SEA)
SOMERTON (SO) (SWF)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
UPICE (UI) (SEA)
VSETIN (VS) (SEA)
ZILINA (ZL) (SEA)

NOTE: Ellensburg, Washington and Luchow, Germany are new stations reporting for the first time.

SIDs BY McMATH REGION

AUGUST 1979

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGION																															
16171		1																													
16174	3			1																											
16175	4																														
16191		1																													
16205														2	1																
16208							1	1	2	2	1		1		1				1												
16209														2																	
16218																					1										
16221														1																	
16223																					1		4								
16224														4	1	1			1		1				1						
16225															1																
16231														2		1		1							1	1					
16233																		1													
16237																										1					
16238																					1	1		1	1	1		1		1	
16239																		1		1	1	1		3	3	3		9	1		
16240																		1		1											
16241																										1					
16242																						1									
16245																								1		1					
16247																												2			
16251																													1		
16252																											2	3	1		
16254																														1	
16263																													1	1	
16264																															1
X-RAY																															
UNKNOWN												1	1						1	1											
NO FP		1			3	2	1			1	1	2				1								1		1	2				


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790801
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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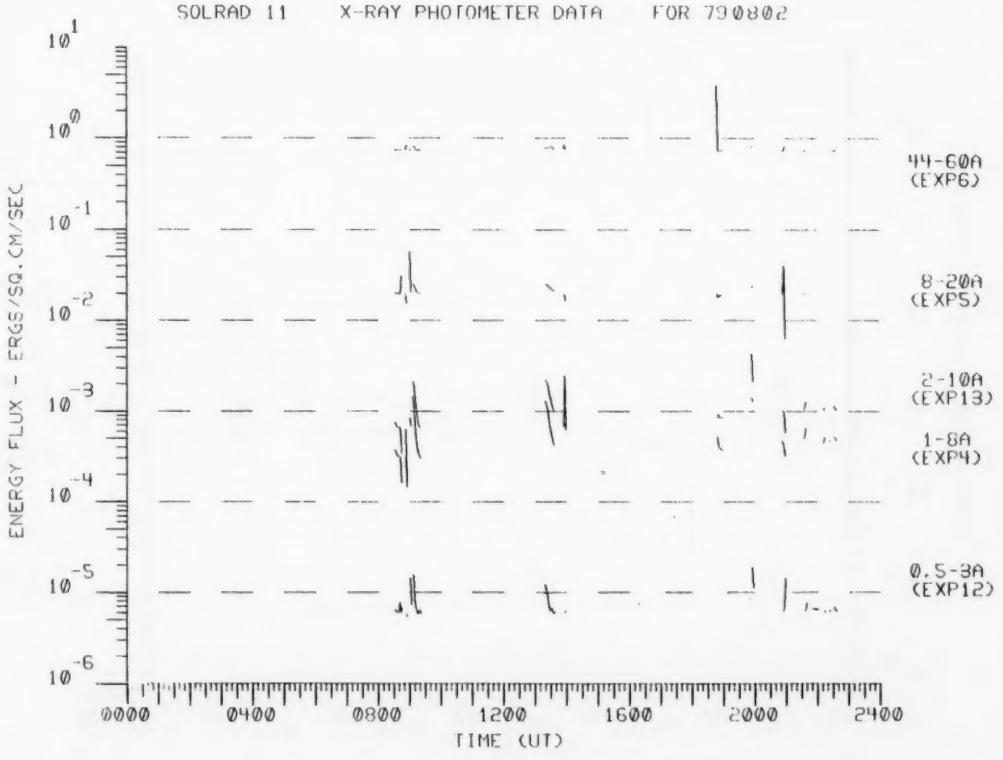
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790802
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-2}
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10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
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1200
1600
2000
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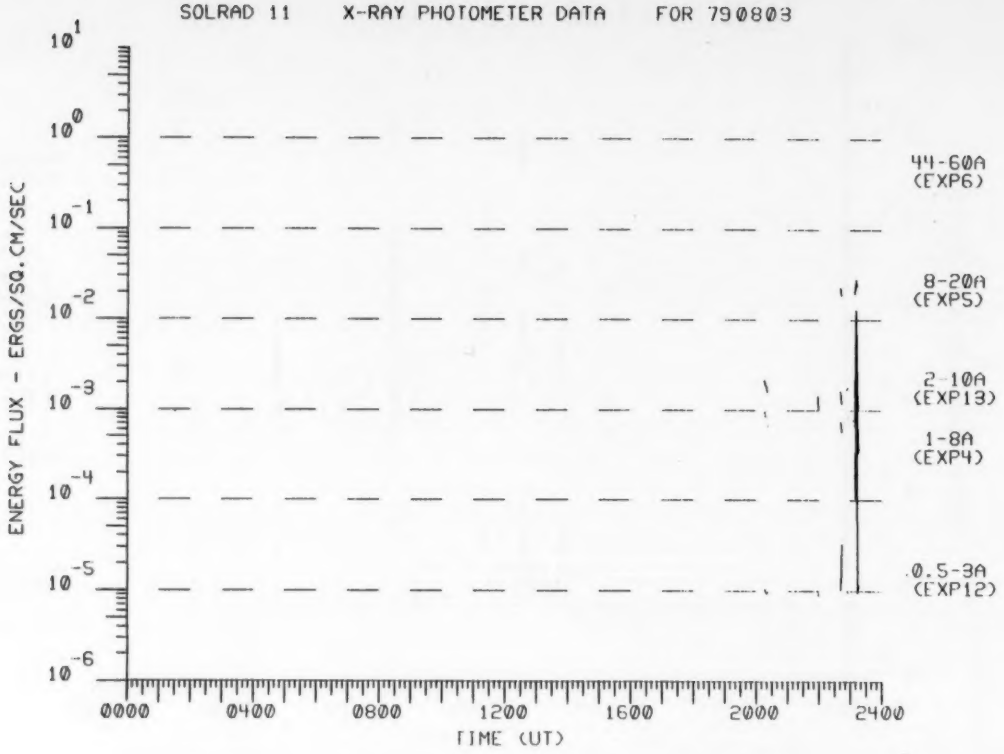
TIME (UT)

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790803



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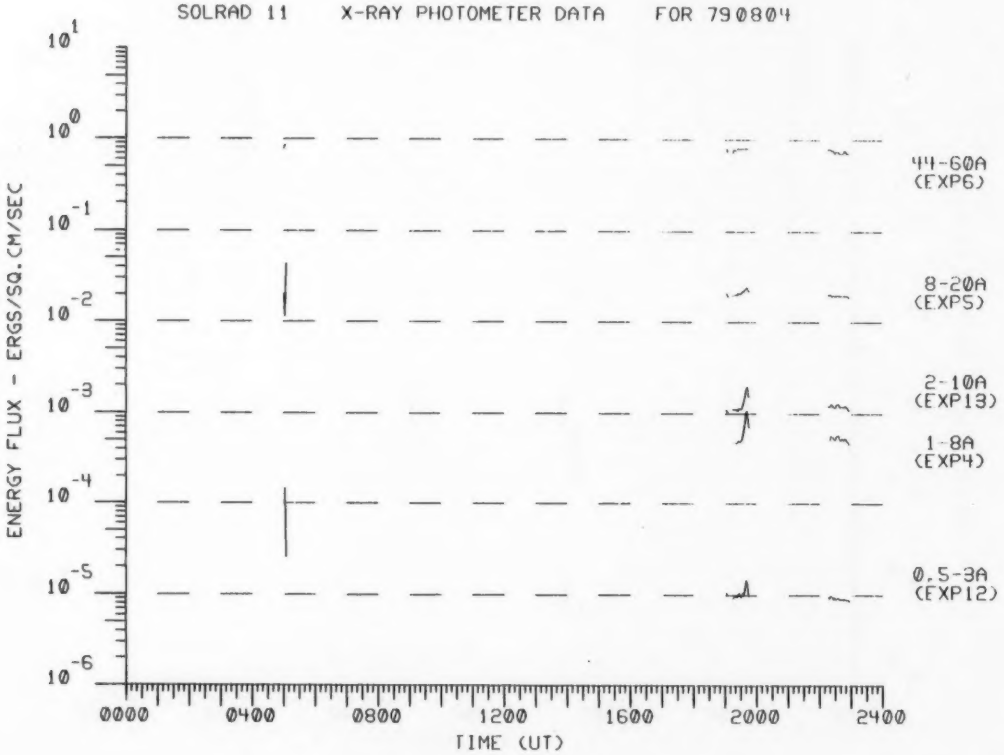

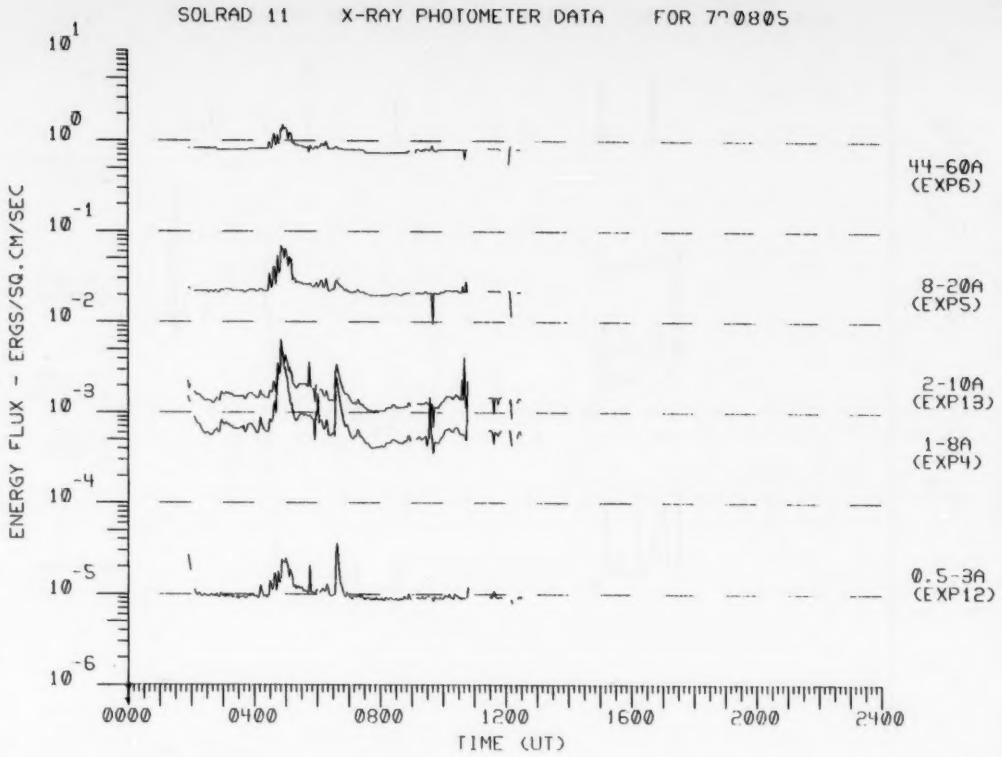
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790805
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
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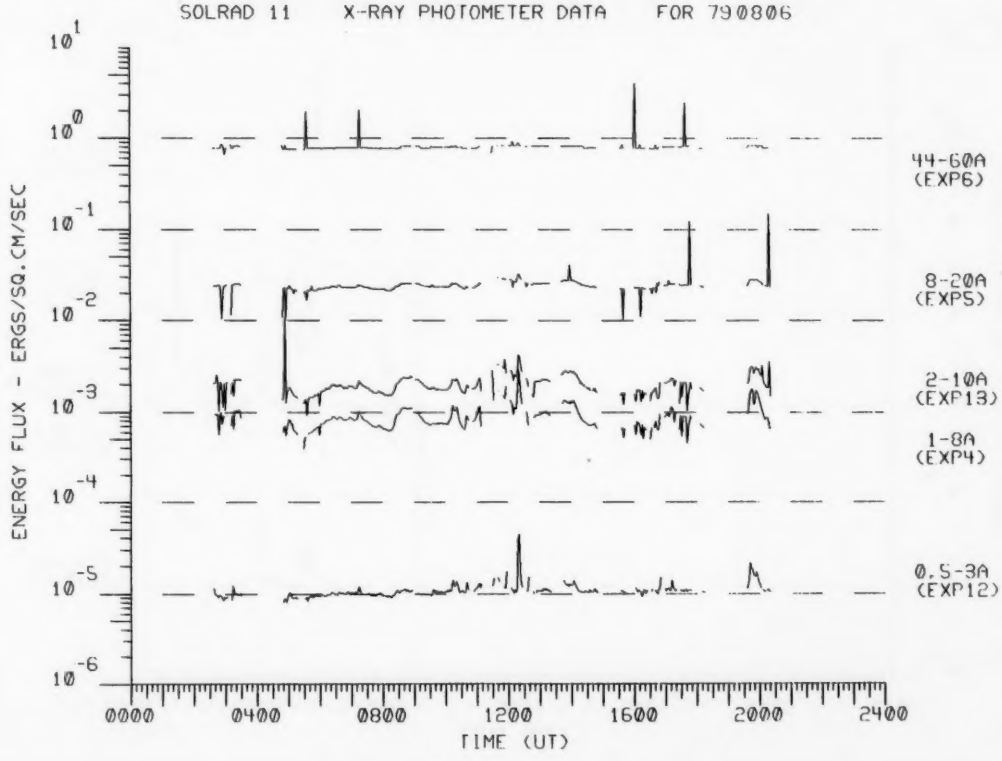
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790806
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^0
10^-1
10^-2
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10^-4
10^-5
10^-6
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
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0000
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2000
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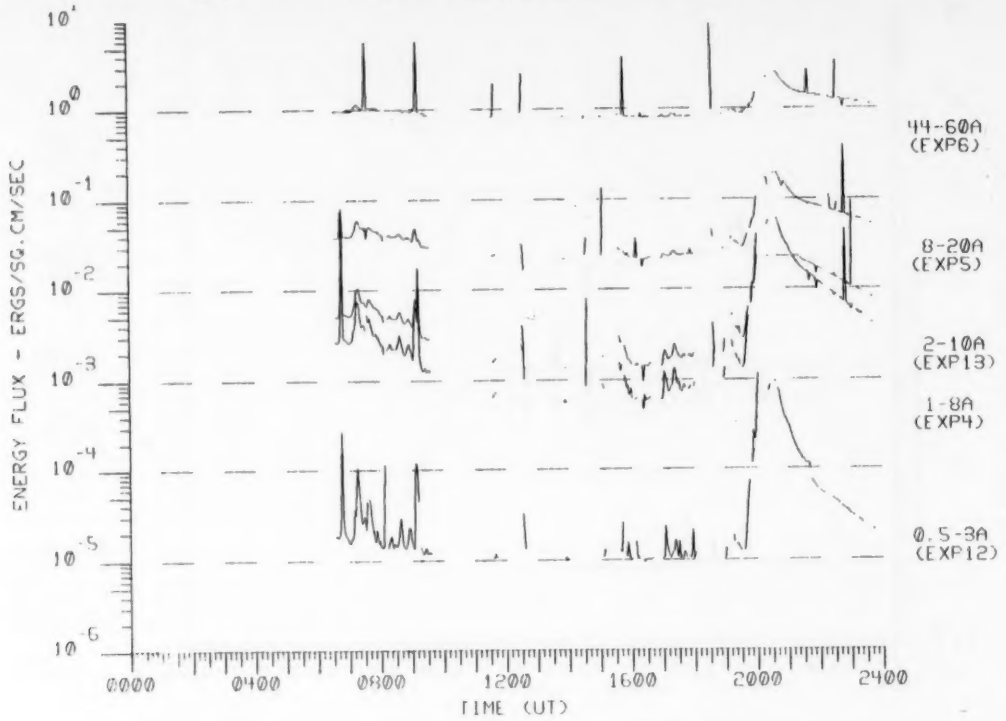
TIME (UT)

SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790807



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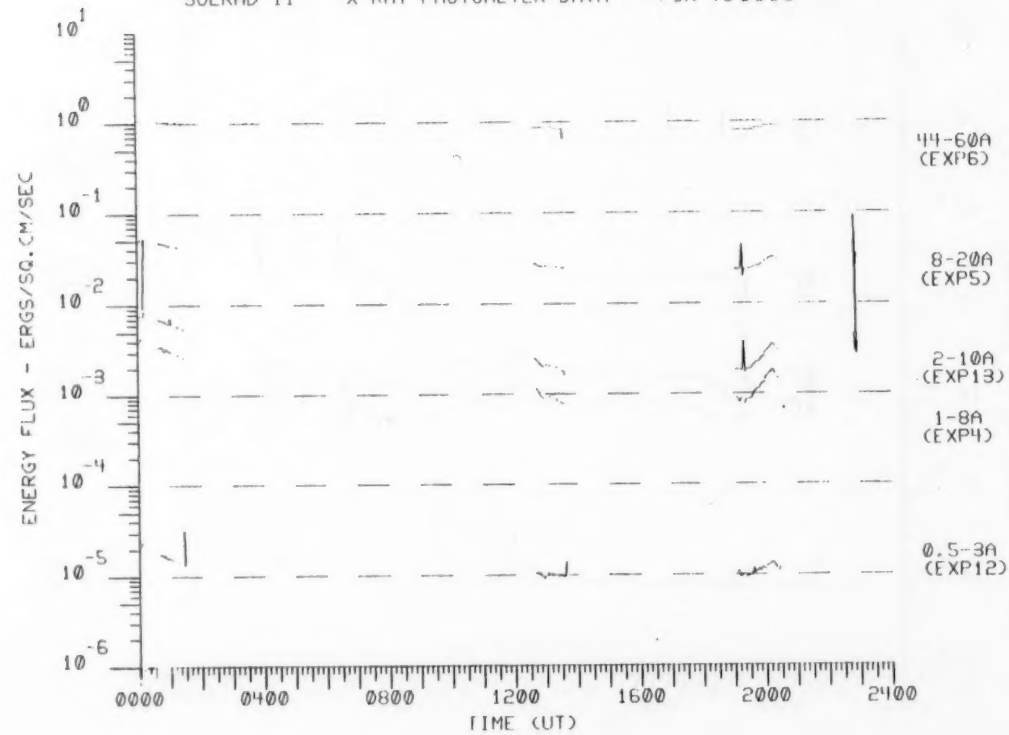

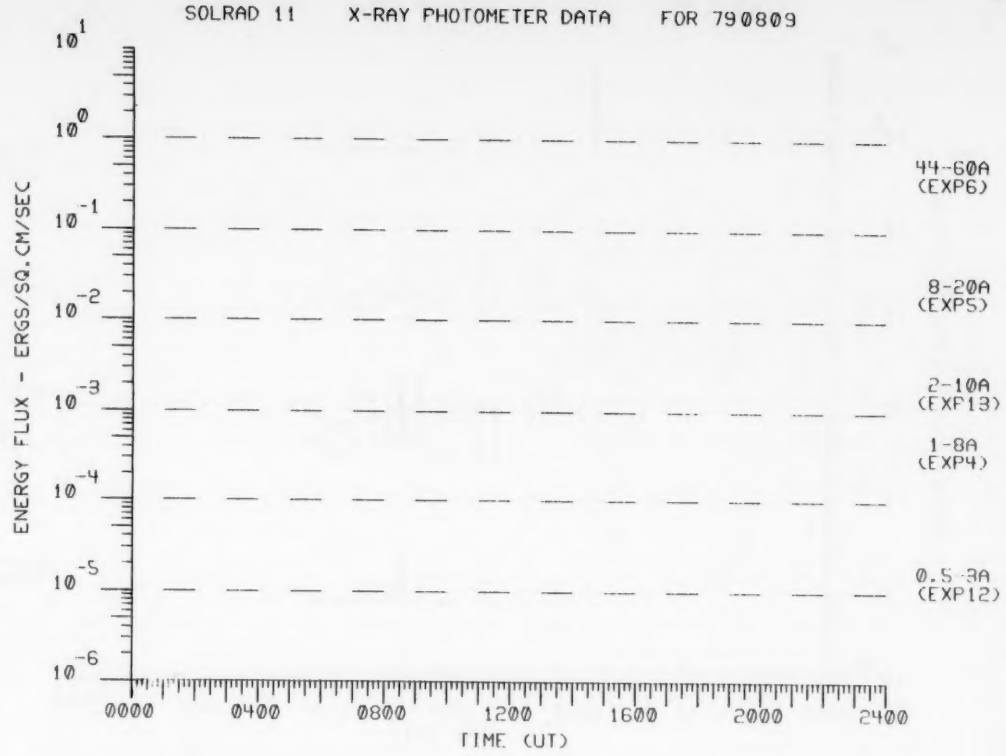
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790809
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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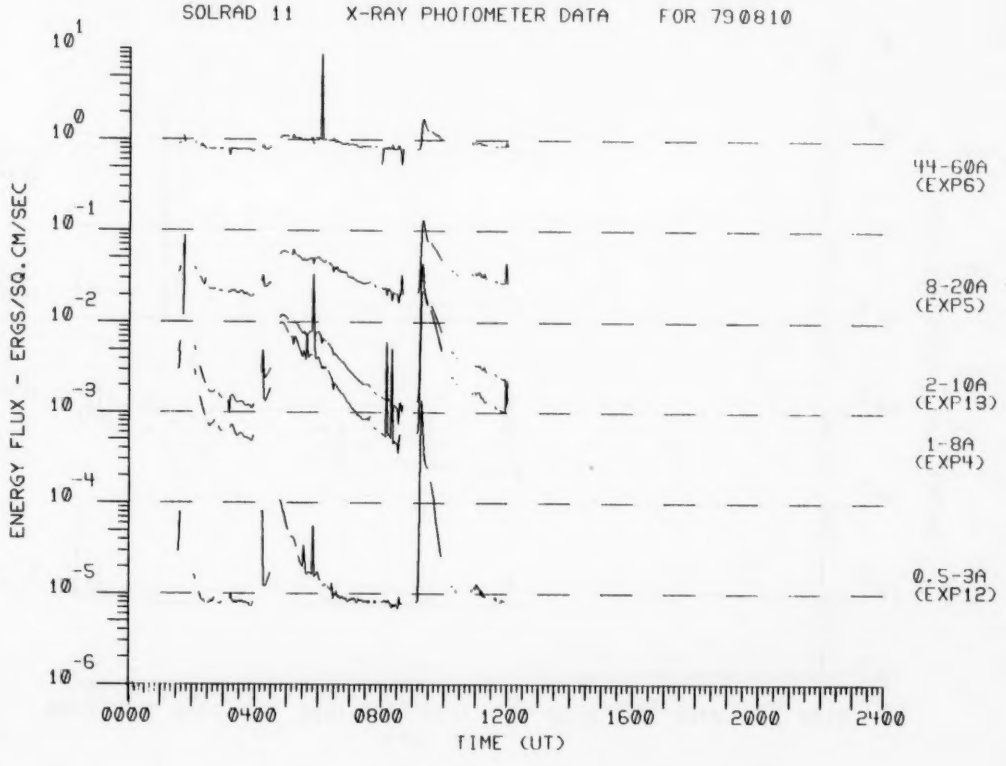
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790810
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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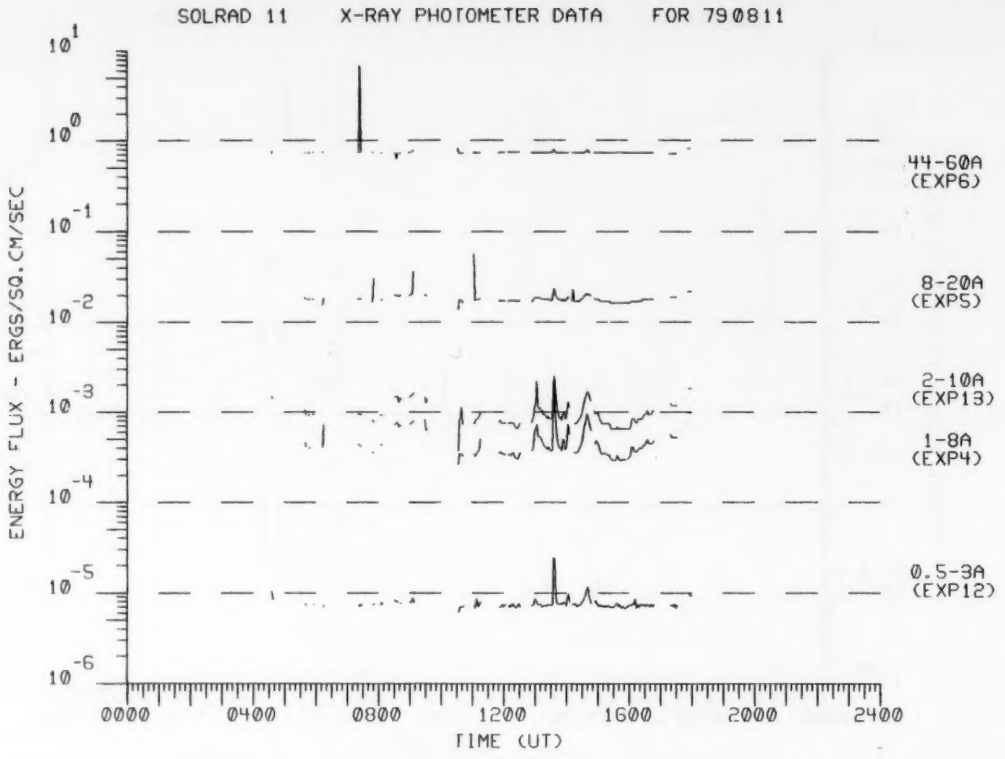
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790811
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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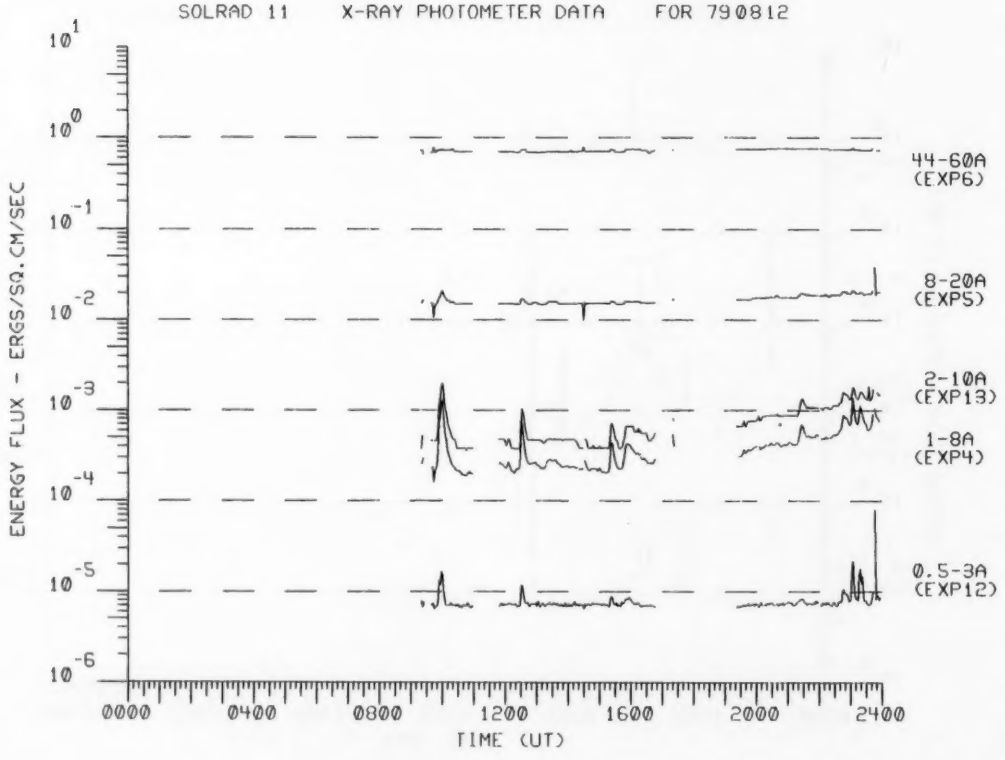
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790812
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
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1-8A (EXP4)
0.5-3A (EXP12)
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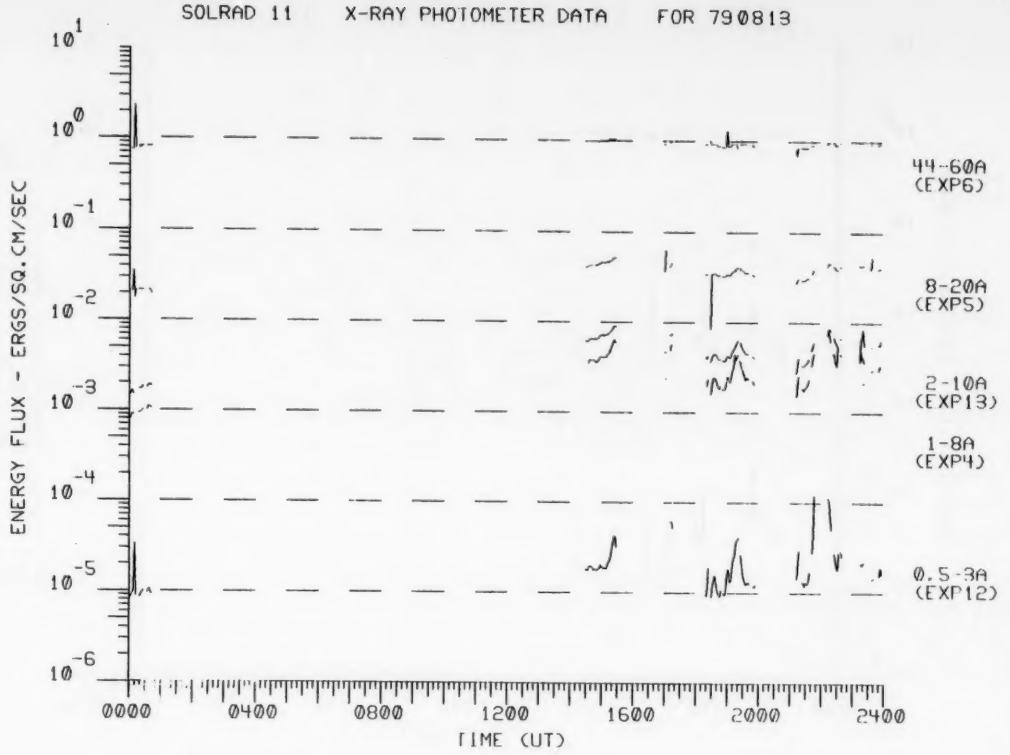
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ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
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10^{-2}
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10^{-4}
10^{-5}
10^{-6}
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8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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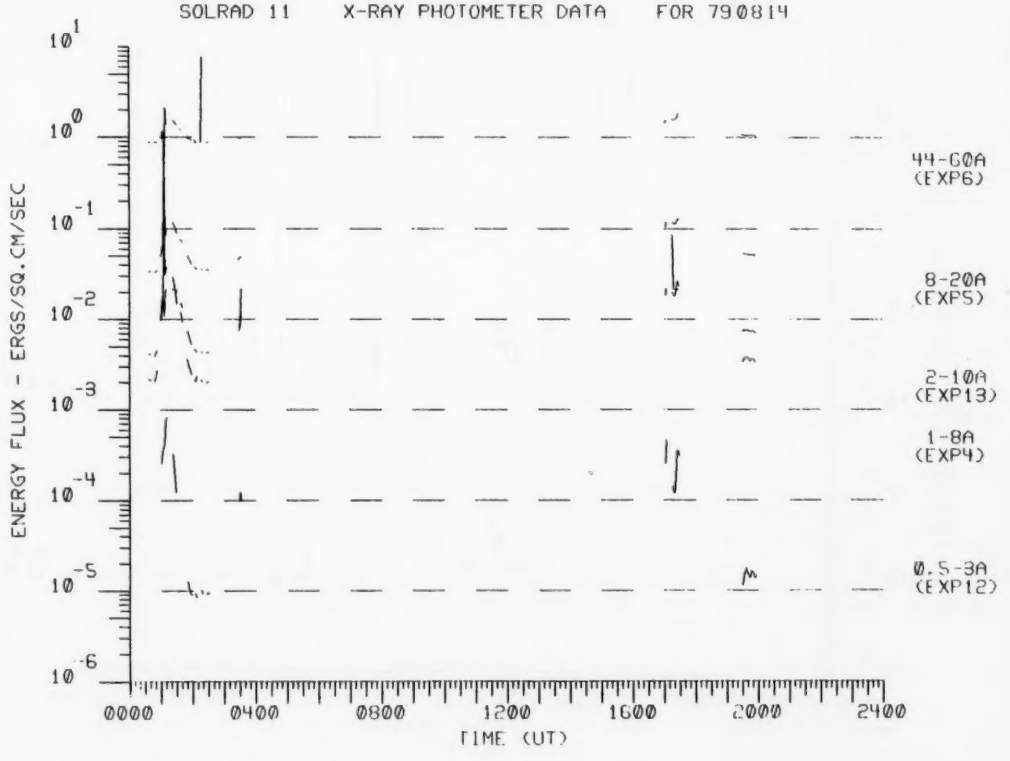
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790814
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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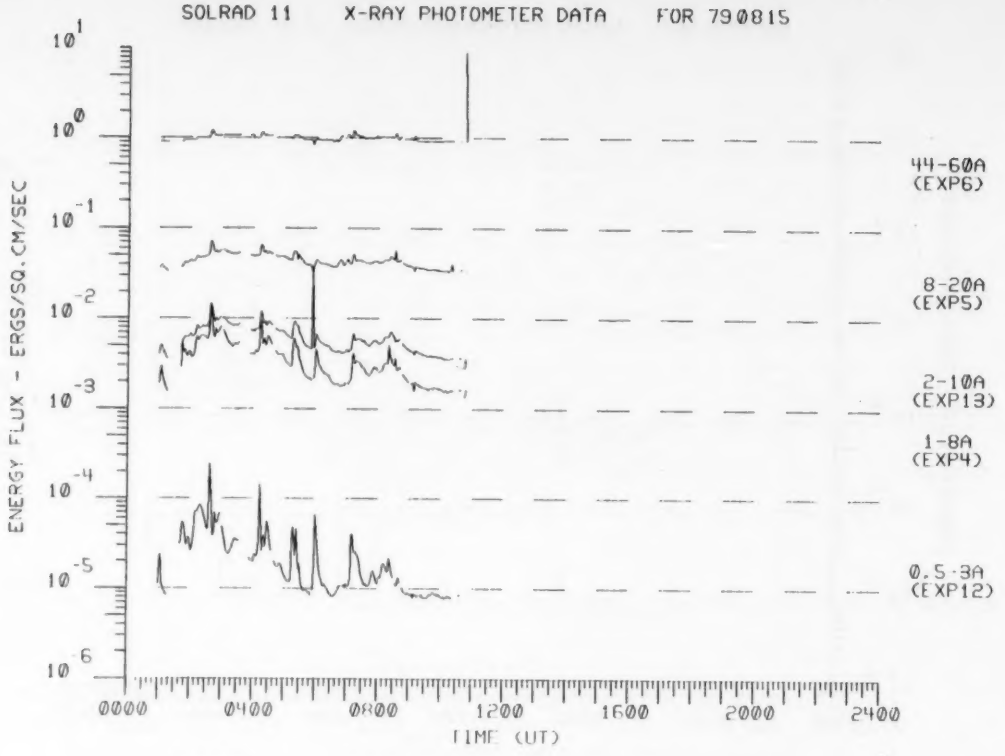
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790815
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
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10^{-4}
10^{-5}
10^{-6}
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8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
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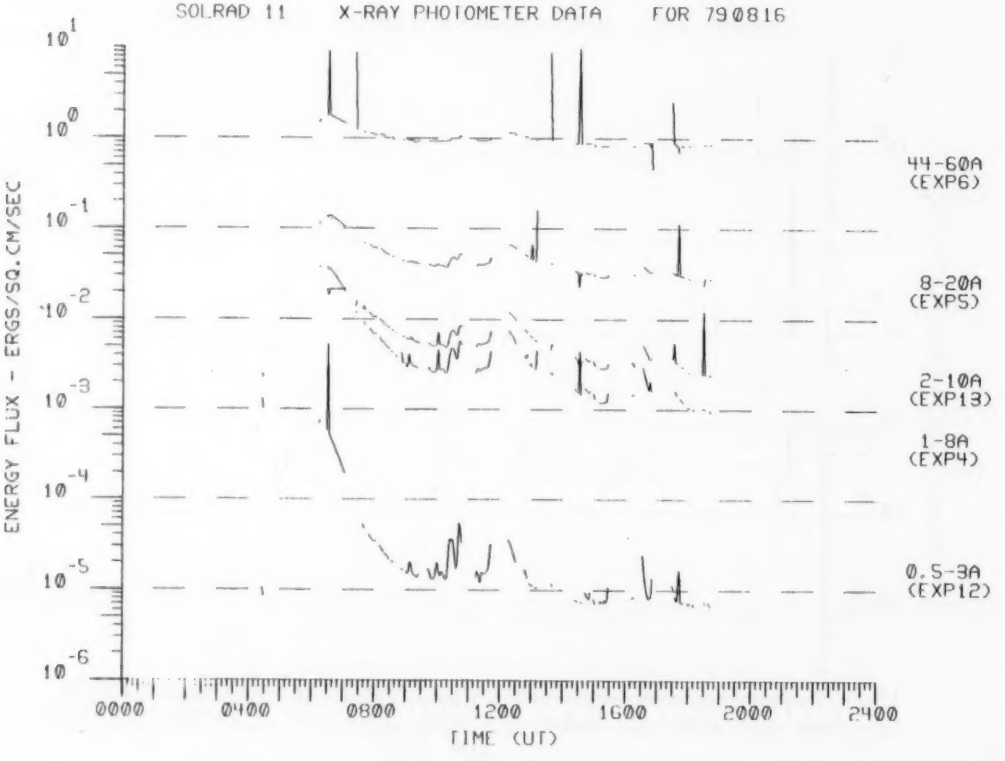
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790816
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
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8-20A (EXP5)
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1-8A (EXP4)
0.5-3A (EXP12)
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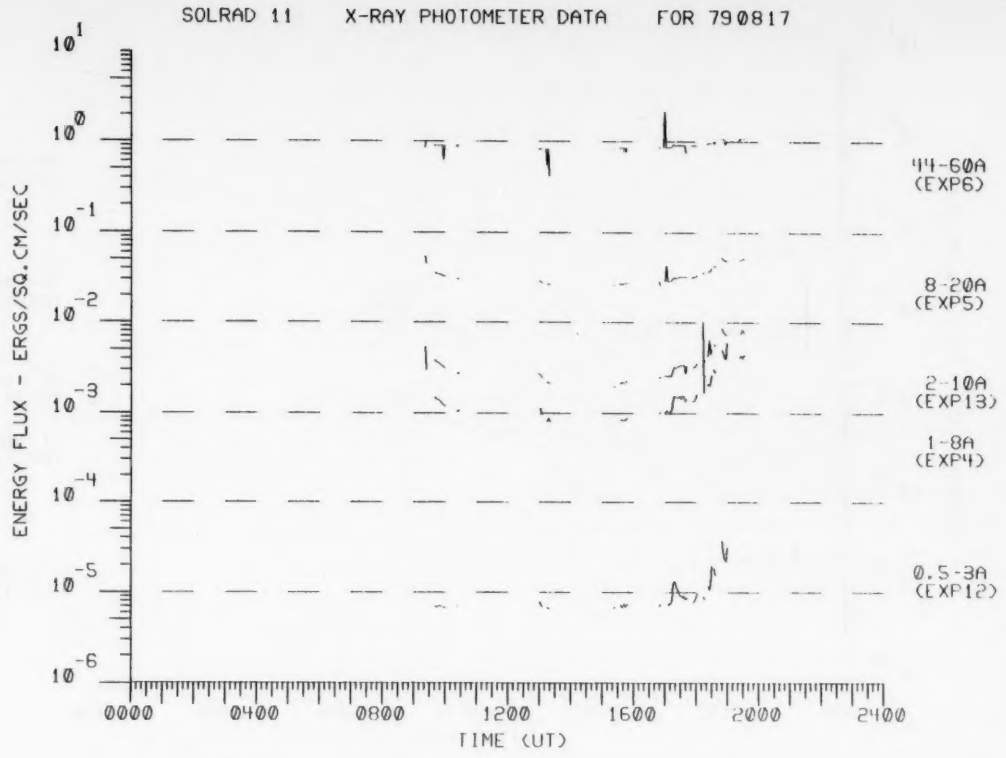
SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790817
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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10^{-4}
10^{-5}
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8-20A (EXP5)
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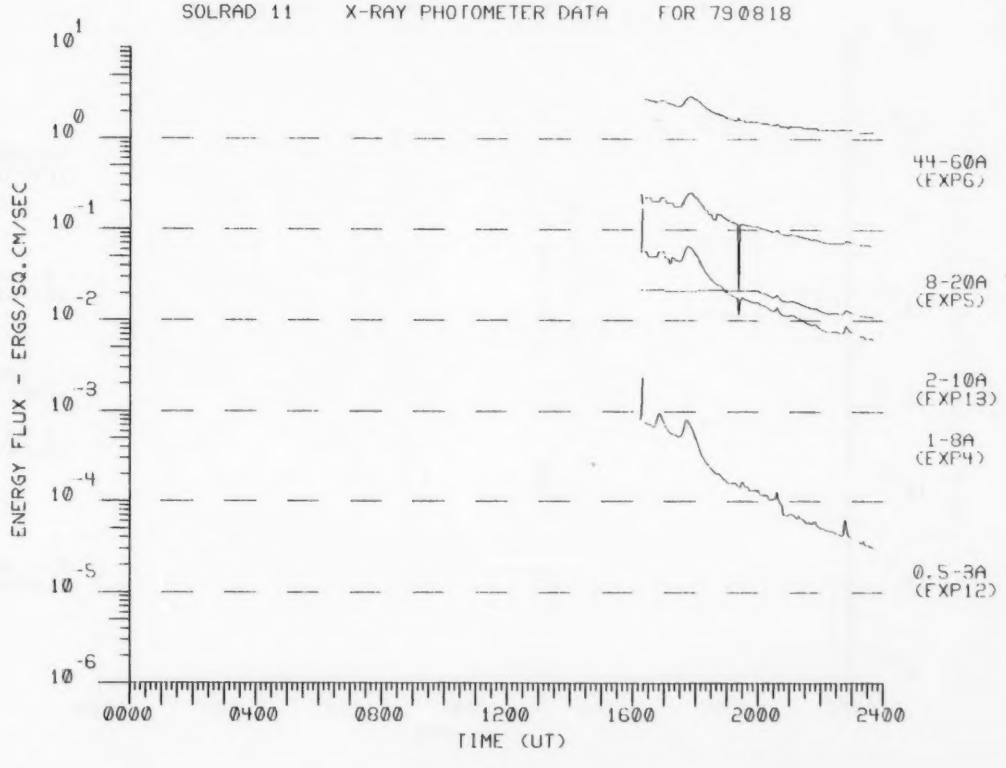
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-5}
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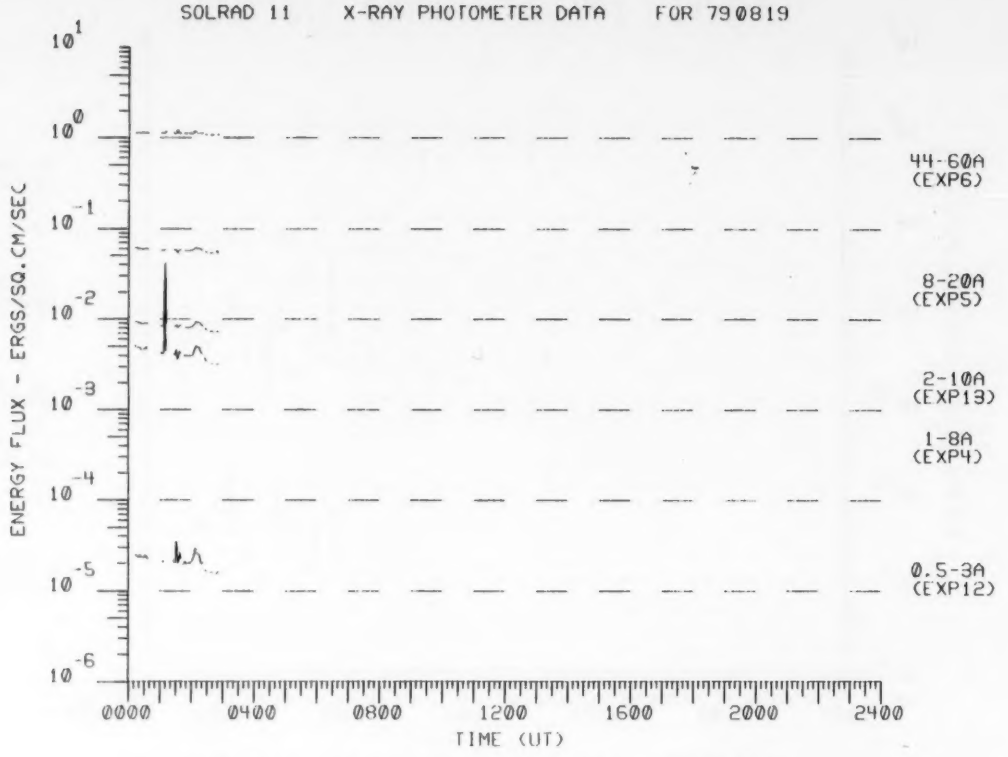
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ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-4}
10^{-5}
10^{-6}
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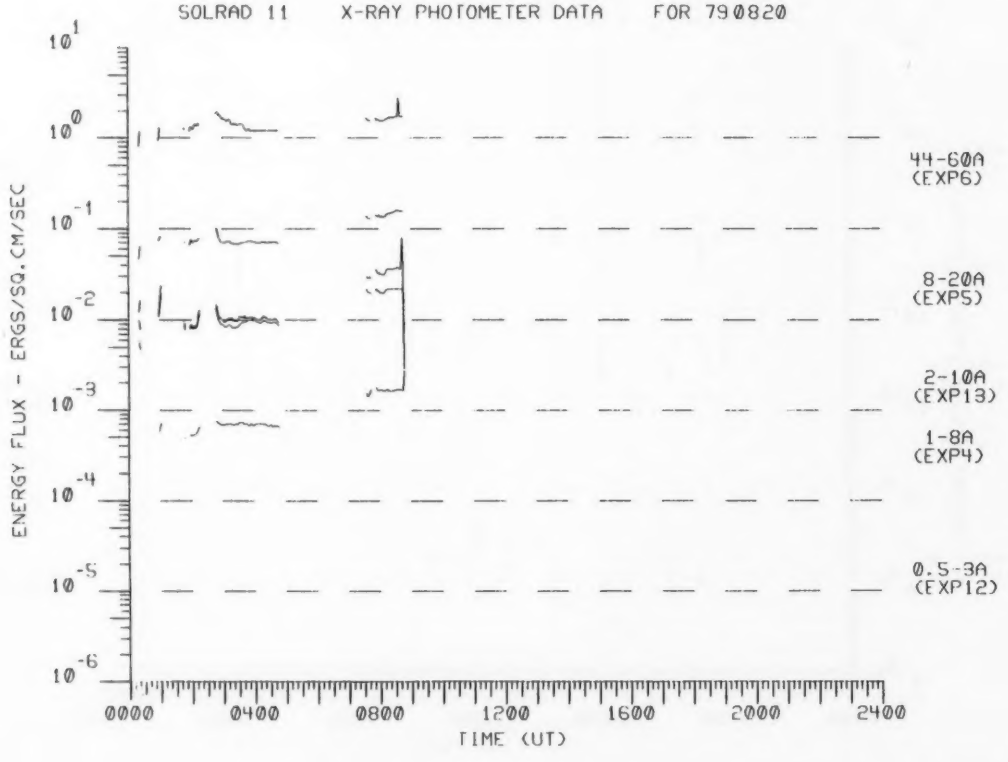
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ENERGY FLUX - ERGS/SQ.CM/SEC
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8-20A (EXP5)
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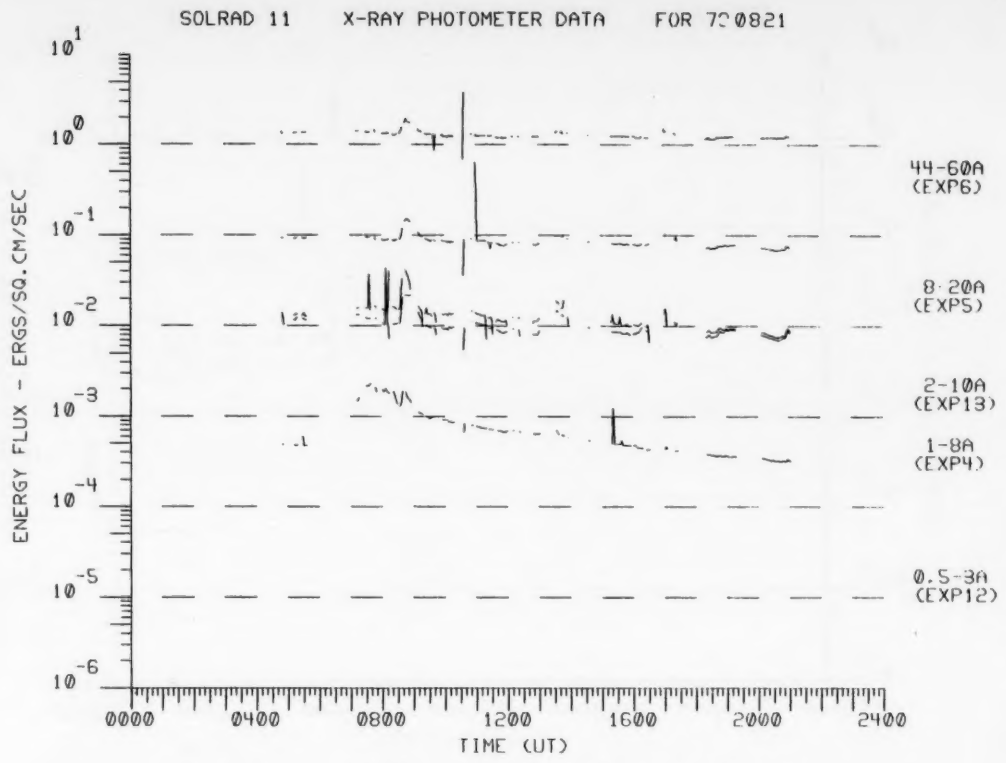
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-5}
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44-60A (EXP6)
8-20A (EXP5)
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1-8A (EXP4)
0.5-3A (EXP12)
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2000
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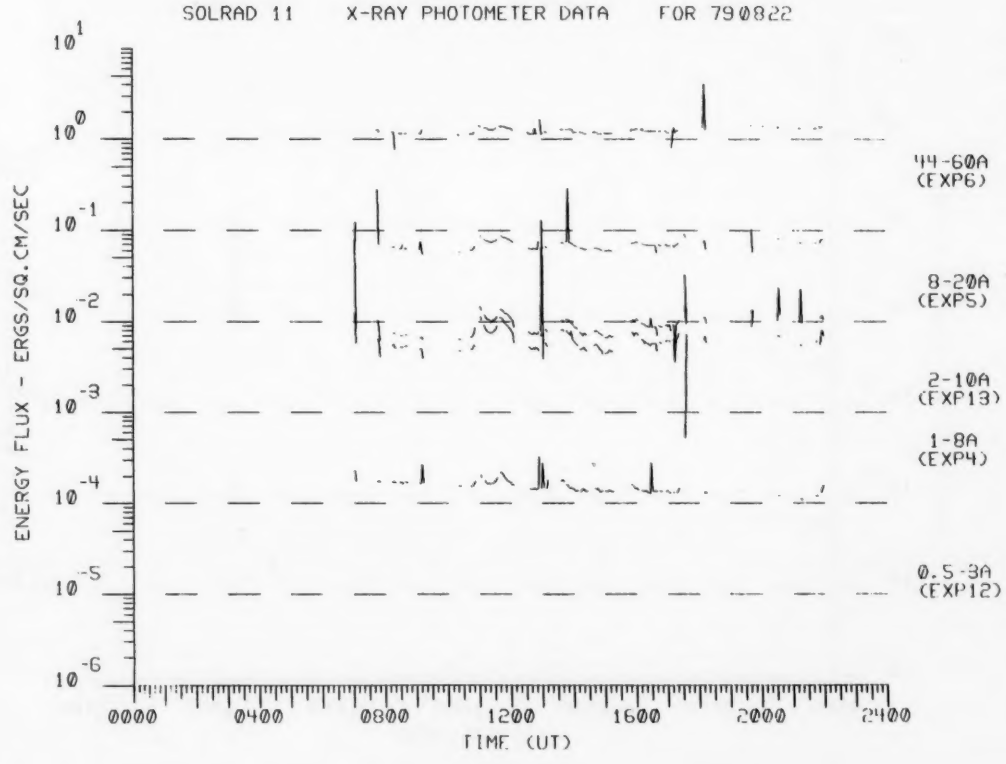
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790822
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
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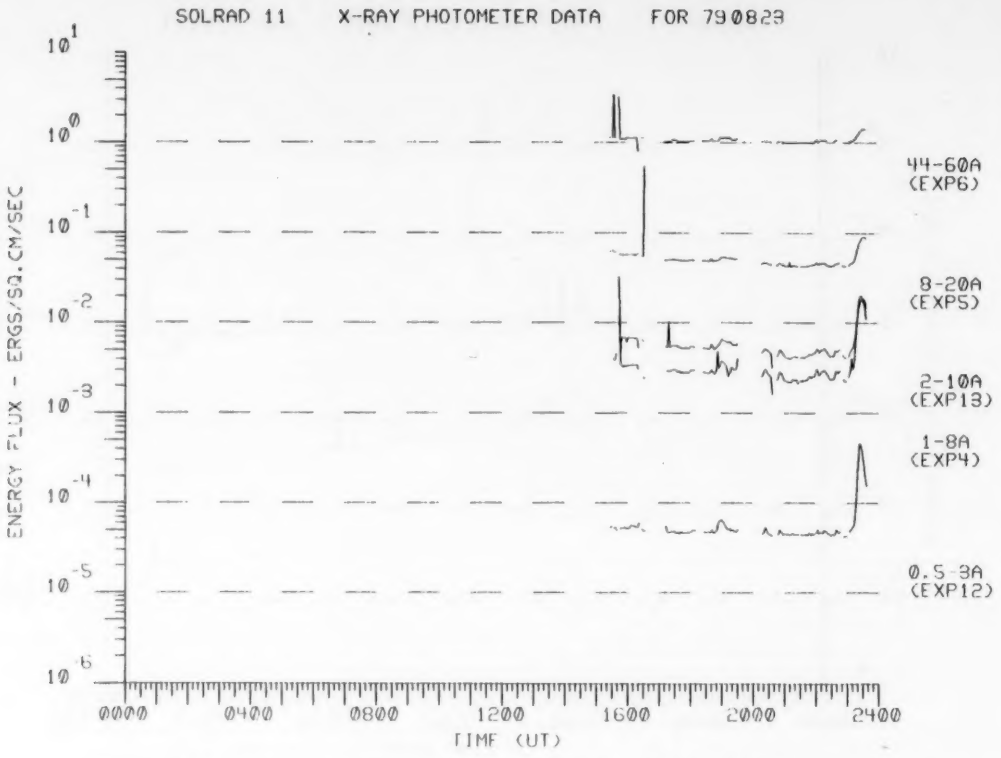
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790823
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
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0.5-3A (EXP12)
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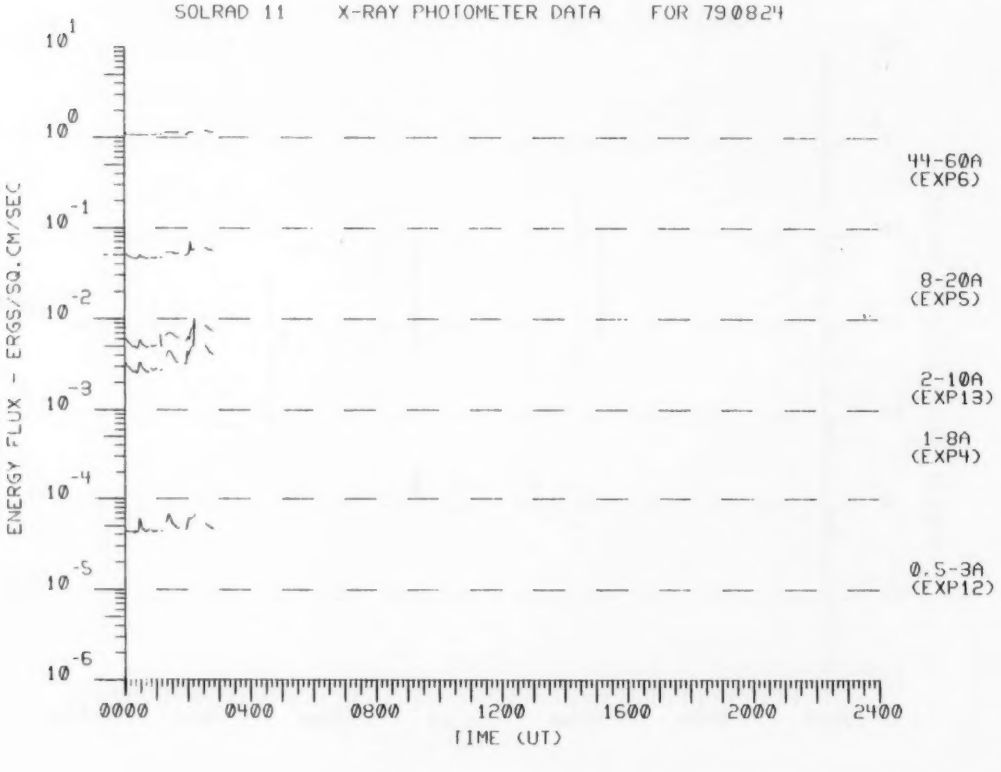
TIME (UT)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10^{-2}
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10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
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0.5-3A (EXP12)
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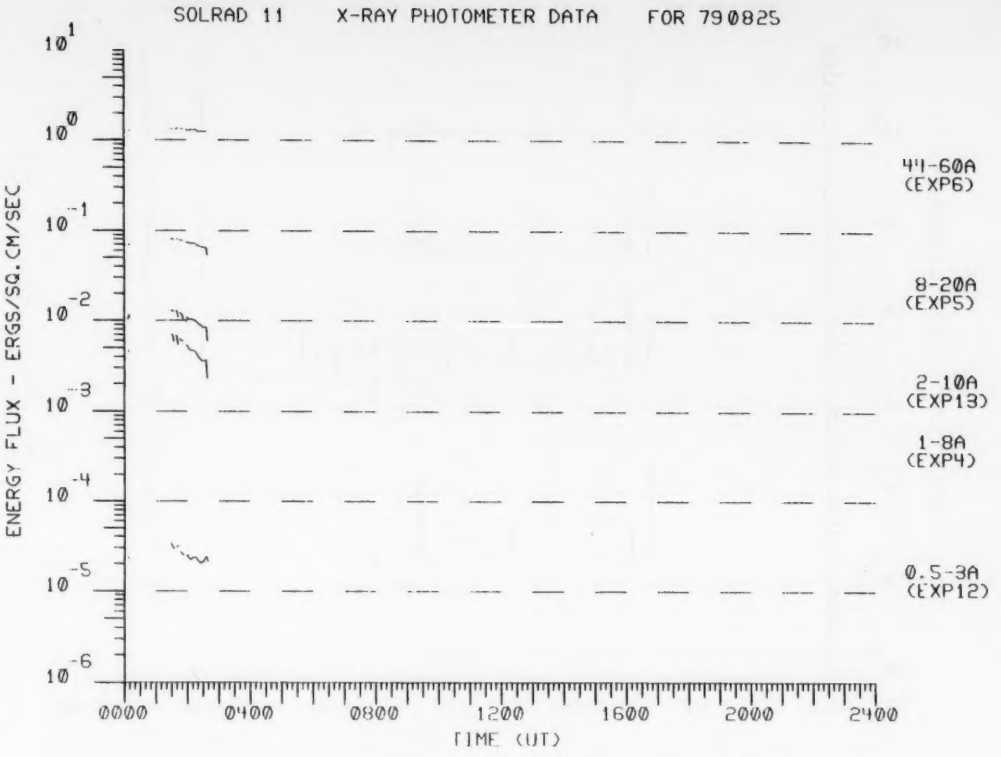
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790825
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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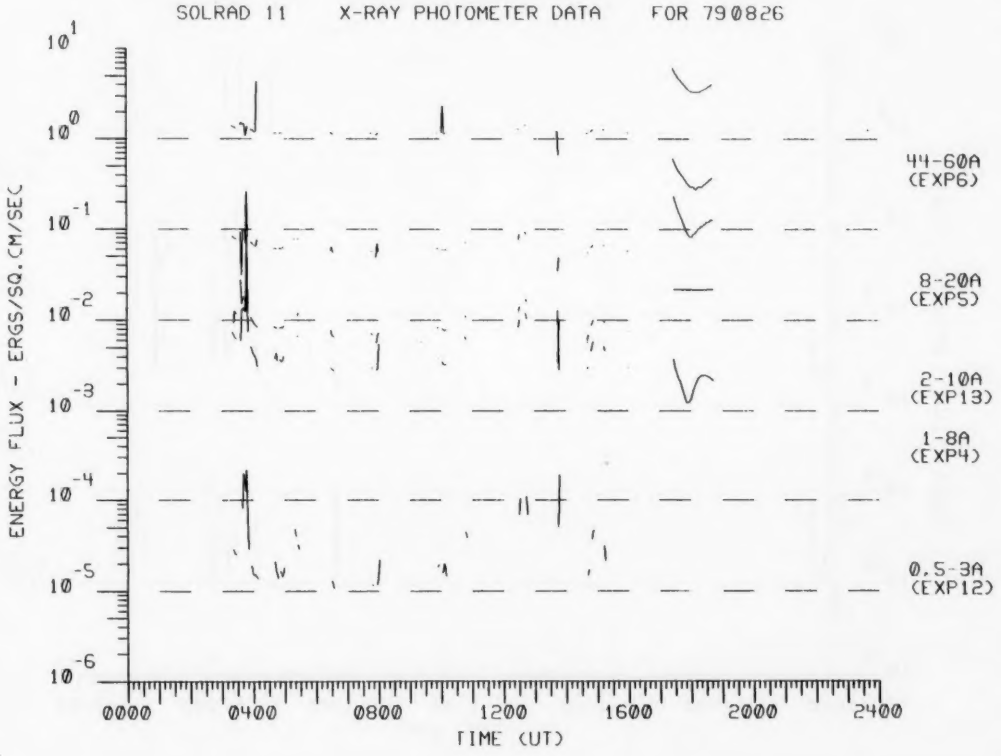
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790826
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{-1}
10^{-2}
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10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
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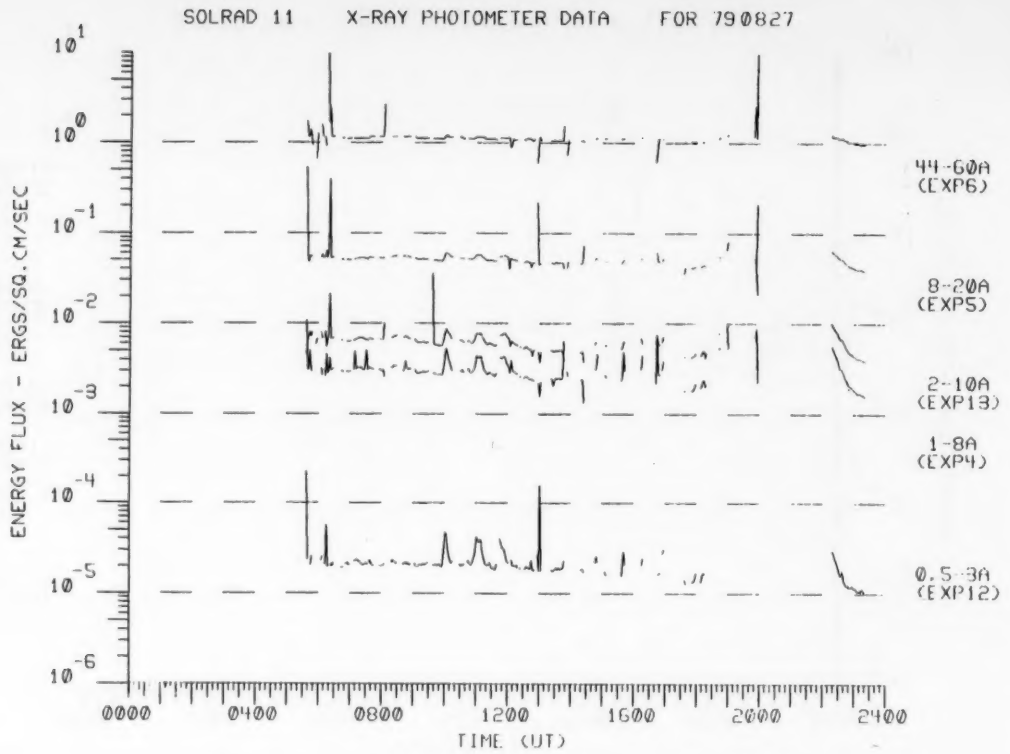
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790827
ENERGY FLUX - ERGS/SQ.CM/SEC
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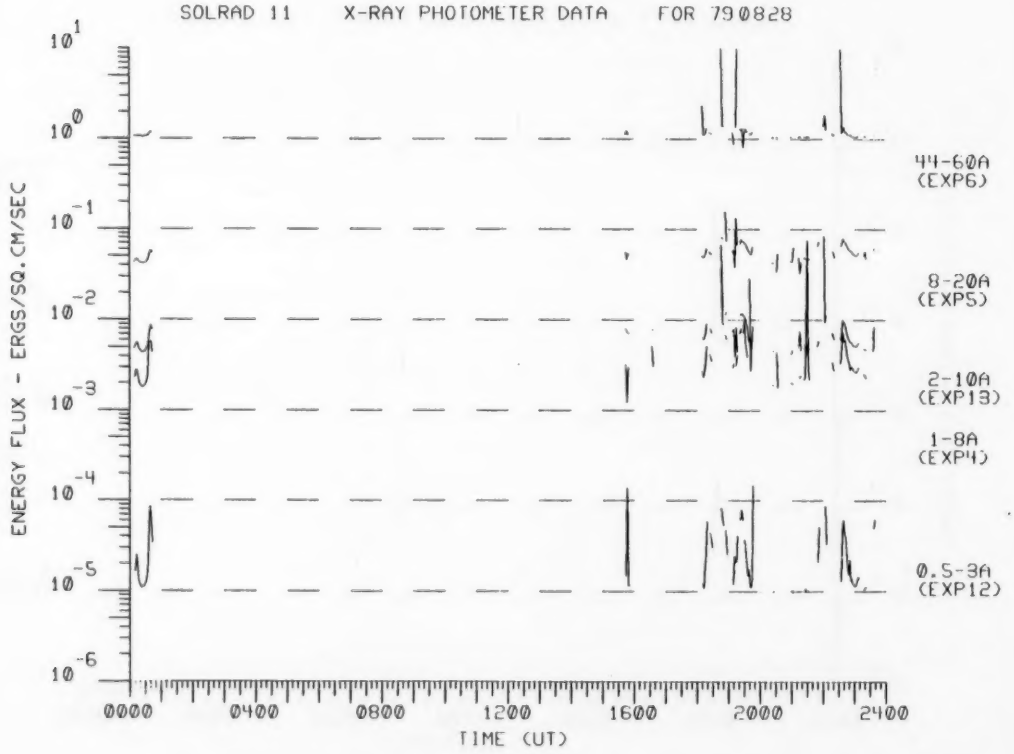
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790828
ENERGY FLUX - ERGS/SQ.CM/SEC
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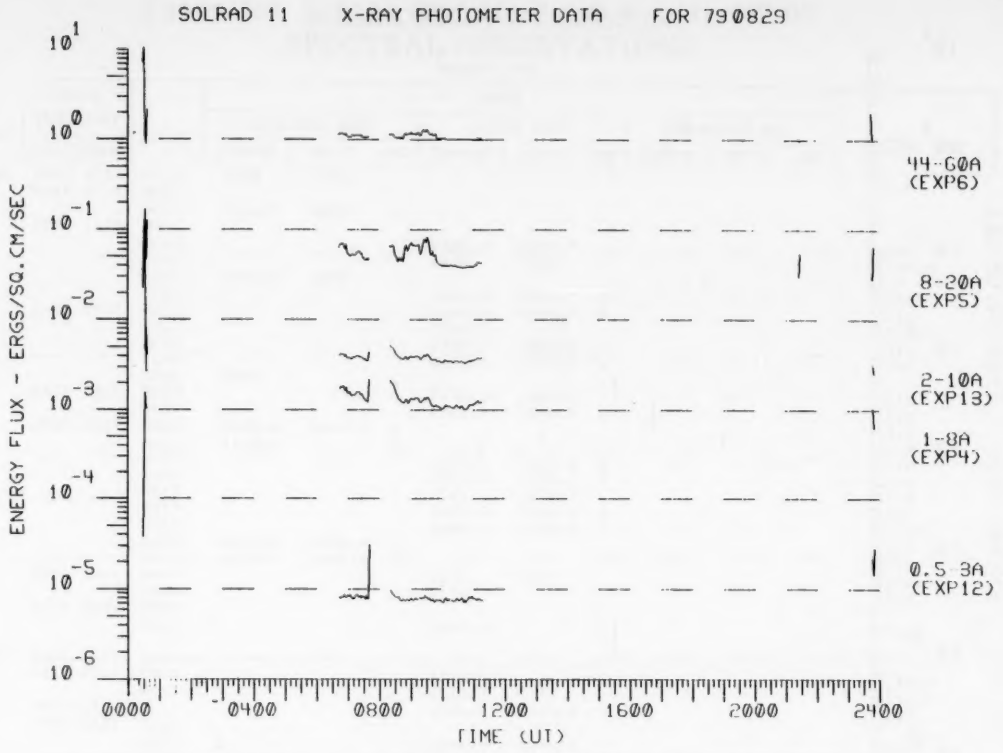
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)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ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
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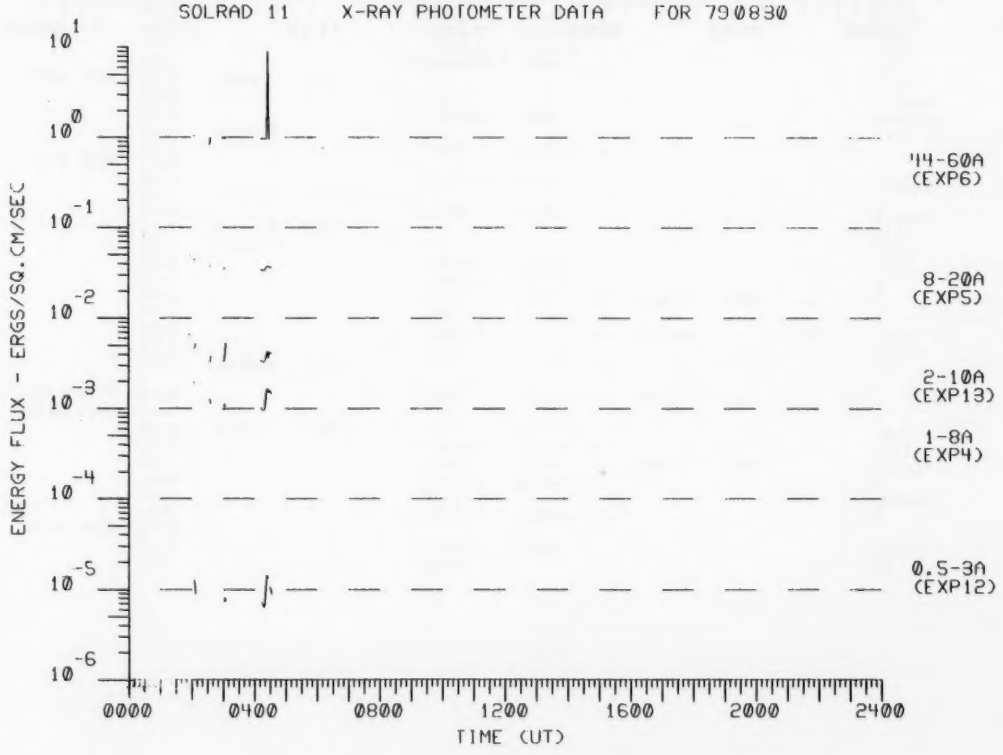
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790830
ENERGY FLUX - ERGS/SQ.CM/SEC
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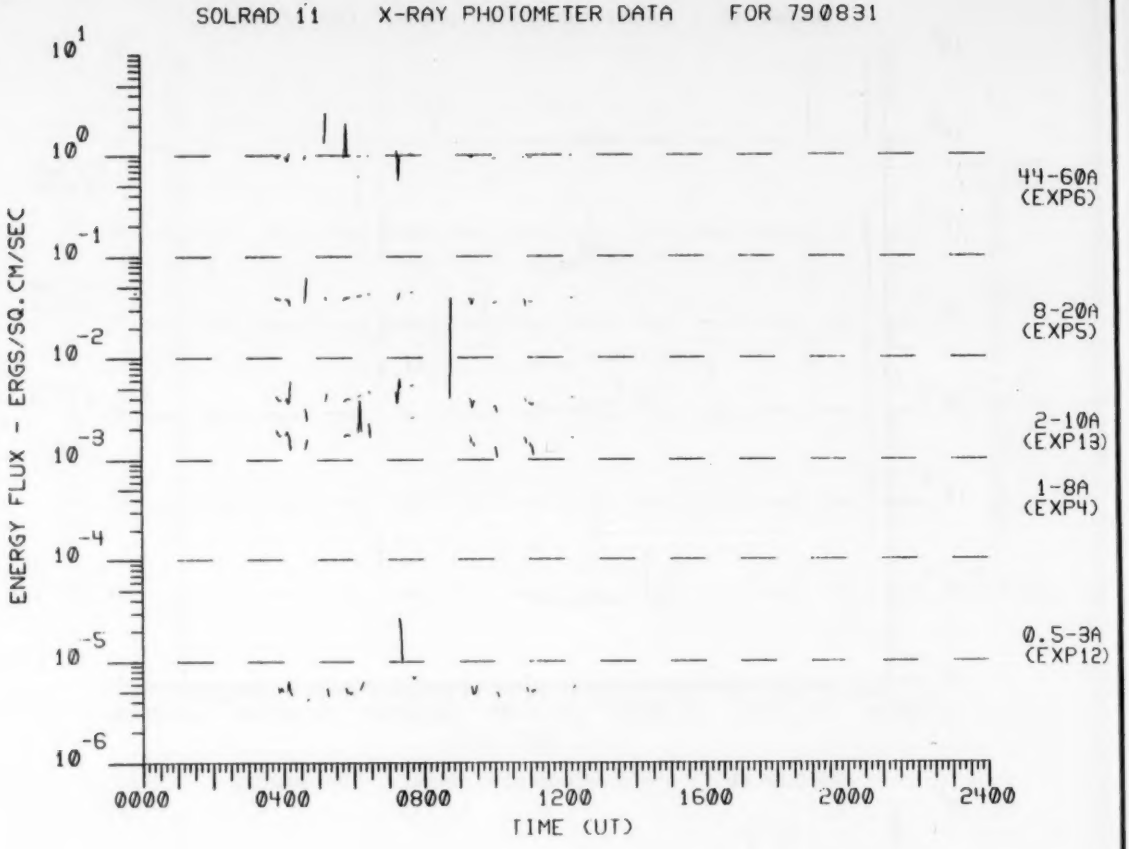
10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)


SOLRAD 11 X-RAY PHOTOMETER DATA FOR 790831
ENERGY FLUX - ERGS/SQ.CM/SEC
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10^{0}
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
10^{-6}
44-60A (EXP6)
8-20A (EXP5)
2-10A (EXP13)
1-8A (EXP4)
0.5-3A (EXP12)
0000
0400
0800
1200
1600
2000
2400
TIME (UT)

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0738	CULG	0000	0236								IN,W
	0000	0112	MANI										
			CULG	0001.5	0002	1							I
	0204	1002	MANI										
			LEAR				0221.0	0221.0	1				CONT
			CULG				0429	0430	1				IIIG,U
			CULG	0520.5	0521								I,W
			LEAR				0556.0	0556.0	1				CONT
	0436	0709	WEIS				0556.3	0556.5	1				IIIB
			CULG				0556.5						IIIB,W
			WEIS				0638.6	0638.8	1				IIIB
			LEAR				0656.0	0656.0	1				CONT
			CULG	0701		1							I
	0717	1020	WEIS				0833.4	0833.5	1				IIIB
			WEIS				0845.7	0846.0	1				IIIB
	0502	1904	DWIN	0856.6	0857.7	1							IIIG
			DWIN	1118.4		2							IIIB
			WEIS				1226.8	1227.0	1				IIIB
			WEIS				1256.4	1256.5	1				IIIB
			WEIS				1348.6	1348.7	1				IIIB
			WEIS				1415.2	1415.3	1				IIIB
			WEIS				1522.4	1522.5	1				IIIB
			DWIN	1636.8	1636.9	1							IIIG
			DWIN	1651.0	1651.6	2							IIIG
	2038	2400	CULG				2120	2400					IIIN,W
			CULG				2136		1				IIIB
	2141	2400	MANI										
			CULG				2155.5		1				IIIB
02	0000	1000	MANI										
	0000	0738	CULG				0038.5						IIIB,W
			CULG				0553.5						IIIB,W
	0438	1316	WEIS				0553.7	0553.8	1				IIIB
	0735	1900	DWIN										
			WEIS				1001.0	1004.3	2				IIIGG
			WEIS				1132.1	1132.3	2				IIIB
			WEIS				1301.7	1304.3	2				IIIGG
	1320	1819	WEIS				1655.7	1656.0	1				IIIB
			WEIS				1748.7	1748.8	1				IIIB
			WEIS				1800.7	1800.9	1				IIIG
	2038	2400	CULG	2056	2057	1							IIIG
			CULG				2108						IIIB,W
			CULG				2109.5	2110					UNCLF,W
			CULG	2119.5		1							IIIB
			CULG				2122	2135.5	1				II
	2130	2400	MANI										
			CULG				2135.5	2139					IV POSS,W
			CULG	2145.5	2147.5	1							I
			CULG				2152	2159					IIIN,W
			CULG	2214.5	2215	1							IIIG
			CULG	2216.5		1							IIIB
			CULG				2319.5	2321.5	1				IIIG
			PALE				2320.0	2321.1	1				V
			CULG				2332	2400	2	2346.5	2351	1	II H
			PALE				2334.5	0000.0	2				B
			CULG				2350.5		2	2350.5		2	IIIB
			CULG	2352		1							IIIB
			CULG	2355.5	2356								I,W
03	0000	0738	CULG				0000	0002.5	3	0001	0001.5	1	IIH
	0000	0945	MANI										
			CULG	0002	0131								IN,W
			LEAR				0245.8	0249.6	1				CONT
			CULG				0245	0250		0248	0249		IIIS,W
			LEAR				0337.8	0338.0	1				V
			CULG				0338						IIIB,W
			LEAR				0353.7	0945.0	1				B
	0500	0635	DWIN										
			CULG				0605.5	0607					IIIG,W
			CULG				0607		1				RS

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
03			CULG				0641	0702					IIIN,W
	0826	1813	WEIS				1133.4	1133.5	1				IIIG
			WEIS				1138.4	1148.2	1				IIIGG
			WEIS				1333.2	1333.3	2				IIIG
			WEIS	1501.1	1501.2	1							IIIG
	1503	1900	DWIN	1504.2		1							IIIB
			WEIS	1504.3	1504.5	1							IIIG
			WEIS				1605.3	1606.0	2				IIIG
			WEIS				1801.7	1803.6	1				IIIG
			PALE				1801.8	1803.7	1				CONT
	2038	2400	CULG	2052	2400								IN,W
			CULG				2151	2151.5					IIIG,W
	2154	2400	MANI										
04	0000	1000	MANI										
	0000	0738	CULG	0036	0050								IN,W
	0439	0836	WEIS										
			CULG	0640.5		1							IIIB
	0500	1904	DWIN	0653.0	0653.8	2							IIIG
	0904	1818	WEIS				1558.4	1559.9	3				IIIG
	2040	2400	CULG										
	2130	2400	MANI										
05	0000	0955	MANI										
	0000	0738	CULG				0232.5	0233	1				UNCLF
	0500	1139	DWIN										
	0440	1506	WEIS				1141.5	1141.8	1				IIIG
			WEIS				1157.2	1158.7	3				IIIG
			WEIS				1358.0	1358.3	1				IIIG
	2038	2400	CULG				2107		1				IIIB,U
	2130	2400	MANI										
			CULG				2148	2242					IS,W
06	0000	0014	MANI										
	0000	0738	CULG	0038	0039								I,W
			CULG				0038	0045					IIIN,W
			CULG				0119.5						IIIB,W
	0340	0955	MANI										
	0548	1815	WEIS										
	0715	1904	DWIN										
	2038	2400	CULG										
	2152	2353	MANI										
07			LEAR				0230.5	0230.8	2				V
	0000	0738	CULG	0230	0230.5	1	0230.5	0231	1	0230.5	0231	1	IIIB
			LEAR				0233.3	0233.5	1				CONT
			CULG				0233.5		1				IIIB
	0315	0955	MANI										
	0442	1100	WEIS										
	0500	1904	DWIN										
	1107	1813	WEIS				1326.6	1326.8	1				IIIG
			WEIS				1809.6	1809.8	1				IIIB
	2038	2400	CULG	2056	2057	1	2054.5	2210	1				IS,C,DC
			CULG	2056	2057	1	2054.5	2210	1			II	POSS
	2147	2400	MANI										
			CULG				2233.5	2234					I,W
08	0000	0738	CULG										
	0000	1003	MANI										
	0444	0651	WEIS										
	0500	1635	DWIN										
	0739	1818	WEIS				1258.7	1259.0	2				IIIB
			WEIS				1537.6	1538.0	2				IIIG
	2038	2400	CULG										
	2153	2400	MANI										
09	0000	0955	MANI										
	0000	0713	CULG				0029						IIIB,W
			LEAR				0253.3	0255.3	1				CONT
			CULG				0253.5	0254	2	0254	0254.5	2	IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
09			PALE				0253.9	0254.1	1				III
			CULG	0330	0334	1							IIIN
			CULG				0439	0440					IIIG,W
			CULG				0441.5						IIIB,W
			CULG				0506.5	0508	2				IIIG
	0722	0902	OWIN										
			PALE				1759.3	1800.2	1				V
	0639	1811	WEIS				1759.6	1800.3	2				IIIG
	2130	2400	MANI										
	2040	2400	CULG				2137.5						IIIB,W
			CULG				2229		1				IIIB,U
			CULG				2340.5	2341	1				IIIG,U
10	0000	0957	MANI										
	0446	1258	WEIS				0537.0	0539.2	1				IIIG
	0000	0738	CULG				0537	0539					UNCLF,W
			WEIS				0542.4	0554.0	2				II
			CULG				0542.5	0558	1				II
			LEAR				0544.0	0550.2	1				II
			LEAR				0550.9	0604.2	1				IV
	1315	1809	WEIS				0556.0	1557.3	1				IIIG
	2037	2400	CULG				2049	2111					IIIS,W
	2150	2400	MANI										
11	0000	0955	MANI										
	0000	0737	CULG				0259	0737					IN,W
			LEAR				0716.6	0717.0	1				CONT
			CULG				0716	0717	1				IIIG
	0739	1809	WEIS										
			PALE				1851.7	1852.4	1				CONT
	2145	2400	MANI										
			PALE				2152.0	2153.3	2				V
			PALE				2202.0	2202.4	2				V
	2037	2400	CULG				2236.5						IIIB,W
			CULG	2252	2252.5	1	2252	2253	3				IIIG,U
			CULG				2253.5	2254					IIIG,W
			CULG				2255						IIIB,W
			CULG				2302	2302.5	3				IIIB
			CULG				2318.5						IIIB,W
			CULG				2319						IIIB,W
			CULG	2350.5	2351	3	2350.5	2352	3				IIIG,V
			PALE				2350.8	2352.0	3				V
			CULG	2352		2							IIIB
12	0000	1004	MANI										
			PALE				0045.3	0045.6	1				III
	0000	0737	CULG	0045	0045.5	2	0045	0045.5	2				IIIG,U
			PALE				0052.4	0053.3	2				V
			CULG	0052.5		1	0052.5		1				IIIB
			PALE				0054.2	0056.9	3				V
			CULG	0055.5		1	0054	0057	3	0055.5	0056.5	1	IIIGG,V,U
			PALE				0058.0	0101.9	2				V
			CULG	0058	0059.5	3	0058	0100	3	0058	0058.5	3	IIIGG,V,U
			CULG	0100	0101.5	3	0100.5	0102	3	0101	0101.5	2	IIIG,V
			LEAR				0312.5	0321.6	1				CONT
			PALE				0312.5	0312.9	1				V
			CULG				0312	0312.5	1				IIIG
			CULG				0318.5	0319	1				IIIG
			PALE				0319.8	0319.8	1				V
			CULG				0319	0319.5					IIIB,W
			CULG				0321	0321.5					IIIG,W
			LEAR				0439.0	0446.9	2				CONT
			CULG				0439	0439.5	2				IIIG
			CULG	0445.5	0446	2	0445.5	0447	3	0445.5	0446.5	2	IIIG,V
			CULG	0449.5	0451	1	0449.5	0451	1				IIIGG
	0448	0942	WEIS				0449.7	0451.2	2				IIIG
			WEIS				0500.2	0501.3	2				IIIG
			LEAR				0500.2	0501.3	2				CONT
			CULG				0500.5	0501					UNCLF,W
			WEIS				0631.0	0631.5	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
12			CULG				0631	0631.5					IIIG,W
	0955	1808	WEIS				1048.3	1048.6	3				IIIB
			WEIS				1110.8	1111.2	1				IIIG
			PALE				2114.2	2114.8	1				V
	2129	2400	MANI										
	2220	2400	CULG				2235	2236					IIIG,W
			CULG				2331	2338					IIIN,W
			CULG				2355.5	2356					IIIG,W
13	0000	0957	MANI										
	0000	0737	CULG				0216	0226					IIIN,W
			CULG				0229.5		1				IIIB
			CULG				0231.5		1				IIIB
			LEAR				0318.8	0319.6	1				CONT
	0449	1624	WEIS				1006.0	1529.0	2				IIIN,CONT
	1145	1904	DWIN										
	1625	1657	WEIS										
	1759	1807	WEIS										
	2037	2400	CULG				2048	2157	1				IS
	2150	2400	MANI										
			CULG				2157	2252					IN,W
14	0000	0955	MANI										
	0000	0736	CULG				0025.5		1				IIIB
			CULG				0026.5	0027					IIIG,W
			CULG				0051	0255					IN,W
			CULG							0100	0135	1	S.W.F.
			CULG				0104.5	0105.5	1				IIIG
			LEAR				0227.3	0228.1	1				CONT
			CULG	0228.5	0229	1	0228.5	0230	2				IIIG,V
			CULG				0255	0558					IS,W
			CULG				0404.5	0405					IIIG,W
			CULG				0558	0736					IN,W
			CULG				0653	0657					IIIN,W
	0649	1805	WEIS				0757.3	0757.5	1				IIIG
			WEIS				0802.7	0829.4	2				IIIGG
			LEAR				0803.5	0822.0	1				B
			WEIS				0852.5	0853.5	2				IIIG
			WEIS				0903.6	0904.8	2				IIIG
			WEIS				1132.8	1132.9	1				U
			WEIS				1138.2	1138.4	2				IIIB
			WEIS				1145.8	1147.6	2				IIIG
			WEIS				1155.0	1634.0	2				IIIN,CONT
	0500	1904	DWIN	1155	1230	2						IV	
			WEIS				1242.7	1416.0	3			IV	P
			DWIN	1243	1318	3						IV	
			WEIS				1506.4	1507.3	3				IIIG
			DWIN	1542.2	1543.0	2							IIIG
			WEIS				1542.3	1544.9	3				IIIGG
			DWIN	1611.7	1613.6	2							IIIG
			WEIS				1700.4	1500.6	2				IIIB
			WEIS				1727.9	1732.3	3				IIIGG,U
			PALE				1728.4	1730.2	2				V
			PALE				1855.5	1855.8	2				III
	2037	2400	CULG				2044	2044.5					IIIG,W
			PALE				2046.1	2051.0	3				V
			CULG				2049.5	2052	2				IIIGG,V
			CULG	2049	2051.5	2							IIIGG
			CULG				2052	2053	2				IS
			CULG				2052		2				IIIB
			CULG				2053	2104					IN,W
			CULG				2104.5	2116.5	2			II	
			CULG				2123						IIIB,W
	2150	2400	MANI										
			CULG				2220						IIIB,W
			PALE				2312.0	2313.1	3				V
			CULG	2313.5	2314.5	3							IIIGG
			CULG				2313.5	2315	3	2314	2315	3	IIIGG,V
			CULG				2313						IIIB,W
			CULG				2339	2341					IIIN,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
14			CULG	2345	2346	1	2345	2346	2				IIIG
			PALE				2355.9	2358.4	2				V
			CULG				2355	2400					IIIN,W
			CULG	2357.5	2359	2	2357.5	2359.5	2	2358	2359.5	1	IIIGG
15	0000	1000	MANI										
	0000	0736	CULG				0004	0711					IIIN,W
			CULG	0006.5		2							IIIG
			CULG				0008	0008.5	1				IIIG
			CULG				0011	0011.5	1				I
			PALE				0041.0	0043.8	3				V
			CULG	0043	0045	3	0043	0045.5	3	0043	0045.5	3	IIIGG,V
			CULG				0055.5	0056.5					IIIG,W
			CULG	0055.5	0056.5	1							IIIG
			CULG				0113.5		1				IIIG
			LEAR				0200.8	0210.4	2				V
			PALE				0209.8	0210.4	2				V
			CULG				0209		1				IIIB
			CULG	0210.5	0211.5	2	0210.5	0212	2	0211.5	0212.5	2	IIIG,V
			CULG	0213		1							RS,DP
			LEAR				0221.6	0730.3	1				B
			CULG	0223	0223.5	1	0223	0223.5	1				IIIG
			LEAR				0234.4	0239.3	1			IV	
			CULG				0234.5	0246					IN,W
			PALE				0234.8	0239.1	2				V
			CULG	0236	0238.5	2	0236	0239	2	0237	0239	1	IIIGG,V
			CULG	0239.5	0240.5	2	0239.5	0241	2	0239.5	0240.5	1	IIIGG
			PALE				0321.5	0336.0	2				S
			CULG				0323.5		2				IIIB
			CULG				0334		1				IIIB
			CULG				0337	0338	2				IIIG,V
			CULG				0343	0343.5	1				IIIG
			PALE				0402.3	0449.1	2				S
			CULG				0404	0404.5	1				IIIB
			CULG	0411	0411.5								IIIG,V,W
			CULG				0411	0411.5	3	0411	0411.5	3	IIIG,V
			LEAR				0412.3	0413.9	2				V
			CULG	0414	0415	1	0414	0415.5	2	0414.5	0415.5	2	IIIGG,V
	0453	0552	WEIS				0456.4	0501.5	2				IIIG
			WEIS				0508.3	0509.1	3				IIIG
			CULG				0509	0510	1				IIIG
			LEAR				0513.5	0522.7	2				CONT
			WEIS				0514.4	0531.6	3				IIIGG
			CULG	0515.5	0530	1	0515.5	0530	2	0515.5	0524	2	IIIG,V,S
	0502	1703	OWIN	0519.0	0522.6	1							IIIG
			CULG				0532		2				IIIB
			OWIN	0549.4	0549.6	1							IIIG
			CULG				0608	0627					IN,W
			CULG				0613.5		1				IIIB
			CULG				0627	0726	1				IS
	0642	1804	WEIS				0710.1	0710.7	2				IIIG
			CULG				0711		1				IIIB
			CULG				0720.5		1				IIIB
			CULG				0726	0736					IN,W
			WEIS				0728.9	0729.4	2				IIIG
			WEIS				1134.6	1140.0	3				IIIGG
			WEIS				1207.6	1207.9	2				IIIG
			OWIN	1214.5	1215.5	2							IIIG
			WEIS				1415.7	1415.8	2				IIIG
			WEIS				1432.4	1433.0	2				IIIG,U
			WEIS				1453.6	1454.1	2				IIIG
			OWIN	1512.4	1512.5	2							IIIG
			WEIS	1512.5	1512.6	2							IIIG
			OWIN	1528.5	1531.0	2							IIIG
			WEIS	1528.6	1530.2	1							IIIG
			WEIS				1605.4	1605.7	1				IIIG
			WEIS	1639.9	1641.1	1							IIIG
			WEIS				1711.0	1711.2	3				IIIB
	2037	2400	CULG				2042	2203					IN,W
			CULG	2120	2255	1							IIIG,N

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
15	2153	2400	MANI										
			CULG				2203	2328					IS,W
			CULG				2328	2400					IN,W
16	0000	0736	CULG				0000	0553					IN,W
	0000	0955	MANI										
			CULG	0013.5									IIIB,W
			CULG	0014									IIIB,W
			CULG	0129	0129.5								IIIG,W
			CULG	0303	0303.5								I,W
			CULG	0352									IIIB,W
			CULG	0507.5									I,W
			CULG	0526.5									I,W
	0453	1718	WEIS	0529.4	0529.7	1							IIIG
			CULG	0531	0531.5	2	0531	0531.5	1				IIIG
			CULG				0553	0637					IS,W
			WEIS				0557.0	1726.0	2				IN,P,CONT
			LEAR				0631.3	0907.0	1				IV
			CULG				0637	0736	1				IS
			CULG				0704	0734	1				II POSS
			WEIS				1101.4	1103.8	3				IIIG
	0650	1900	DWIN	1138	1226	2							IV
			WEIS				1146.0	1200.0	2				II
			WEIS				1553.5	1553.7	1				IIIG
			WEIS				1642.5	1643.6	2				IIIG
			WEIS				1702.5	1704.9	2				IIIG
			PALE				1702.5	1703.6	1				CONT
			WEIS				1718.0	1718.3	2				IIIG
	2037	2400	CULG				2045	2321					IIIN,W
			CULG				2045	2400	1				IS
			CULG				2118.5		1				IIIG
			CULG	2130.5	2131								I,W
			CULG	2131.5	2132								I,W
	2137	2400	MANI										
			CULG	2253	2253.5	1	2252.5	2253.5	1				IIIGG
17	0000	0021	MANI										
			PALE				0017.5	0024.2	1				CONT
	0000	0736	CULG				0019.5	0026	1	0019.5	0022.5	1	IIIS
	0111	0959	MANI										
			CULG				0141	0141.5					I,W
			CULG				0201						IIIB,W
			CULG				0203.5						IIIB,W
			CULG				0223	0731					IN,W
			LEAR				0233.8	0232.7	1				V
			PALE				0233.9	0234.4	1				III
			CULG	0235.5	0236.5	2	0235.5	0236.5	2				IIIG
	0500	1900	DWIN										
			LEAR				0513.3	0951.0	1				B
			CULG				0521						IIIB,W
			CULG	0526.5	0528								I,W
			CULG	0557.5	0558.5								I,W
			CULG				0626.5	0627.5	1				UNCLF
			CULG				0632	0633	2				IIIG,V
			CULG				0659.5	0701	1				IIIG,V
	0702	1757	WEIS				0733.0	1629.0	2				IN
			WEIS				0739.0	1725.0	2				IIIN
			WEIS				1324.2	2324.4	2				U,U
			WEIS				1618.7	1619.1	3				U
	2036	2400	CULG				2049	2400	1				IS,C
	2153	2400	MANI										
			CULG				2204	2328	1				IIIN,W
			CULG				2320.5		1				IIIB
			CULG				2323.5		2				IIIG
			CULG	2333.5		1							I
			CULG	2334	2334.5	1							IIIG
			CULG	2340									I,W
18	0000	0736	CULG				0000	0205	1				IS,C
	0000	1000	MANI										

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18			CULG				0007.5						IIIB,W
			CULG				0011						IIIB,W
			CULG				0034						IIIB,W
			CULG	0053	0604								IN,W
			PALE				0104.0	0452.0	1				B
			CULG				0113	0608					IIIS,W
			CULG				0122		1				IIIB
			LEAR				0200.0	0952.0	1				B
			CULG				0205	0300					IS,W
			CULG	0253.5	0254	1	0253.5	0254	2				IIIG
			CULG				0304	0728					IN,W
			CULG	0318	0318.5	1							IIIG
			CULG				0334.5		1				IIIB
			CULG				0340		1				IIIB
	0458	0903	WEIS				0458.0	1529.0	2				IN
	0500	0752	OWIN										
	0919	1755	WEIS				0514.0	1648.0	2				IIIN
			CULG	0514	0514.5	1	0514	0514.5	1				IIIG
			CULG				0531.5	0532	2				IIIG,V
			WEIS				0531.7	0532.7	2				IIIG,U
			CULG				0532.5		1				IIIG
			CULG				0619.5	0620	2				IIIG,V
			WEIS				0619.9	0620.2	3				IIIG
			WEIS				0624.4	0624.9	3				IIIG
			CULG				0624.5	0625	1				IIIG
			CULG				0713	0713.5	1				DC
			WEIS				0941.5	0941.9	2				IIIG,U
			WEIS				1105.8	1106.3	2				IIIG
	0809	1903	OWIN	1401.0	1403.0	2							IIIG
			WEIS				1409.0	1456.0	3			IV	P,RS
			OWIN	1410.2	1411.9	2							IIIG
	2036	2400	CULG				2043	2400	1				IS
	2130	2400	MANI										
			CULG				2157	2355					IIIN,W
			CULG				2154.5		1				IIIB
			CULG				2231		1				IIIB
			CULG				2243.5	2244	2	2243.5	2244	1	IIIG,V
			PALE				2243.7	2244.1	2				V
			CULG				2336.5	2337.5	1				IIIG
			CULG				2338.5		1				IIIB
			CULG				2344		1				IIIB
19	0000	0735	CULG				0000	0113					IS,W
	0000	1000	MANI										
			CULG				0009		1				IIIB
			CULG				0113	0729					IN,W
			CULG				0116						IIIG,W
			CULG				0217.5		1				DP
			CULG				0240.5	0241.5	2				IIIG
			LEAR				0241.0	0241.3	1			II	
			LEAR				0241.0	0241.3	1				V
			CULG				0436	0733					IIIN,W
	0502	1606	WEIS				0531	1602	2				IIIN
			LEAR				0545.9	0546.8	1				CONT
	0500	1903	OWIN	0642.5	0643.9	2							IIIGG
			CULG				0642.5	0643.5	1				IIIG
			LEAR				0643.0	0643.4	1				CONT
			OWIN	0658.5	0659.2	2							IIIGG
			CULG				0658.5	0704.5	1				IIIN
			LEAR				0659.3	0700.2	1				CONT
			CULG				0659.5		2				IIIB
			OWIN	0701.0	0706.5	2							IIIGG
			LEAR				0702.6	0704.6	1				CONT
			LEAR				0730.9	0731.2	1				V
			OWIN	0755.0	0757.0	1							IIIG
			OWIN	0810.5	0811.5	1							IIIG
			OWIN	0835.9	0836.2	1							IIIG
			OWIN	0843.5	0849.0	2							IIIGG
			WEIS				0843.5	0847.5	3				IIIGG
			LEAR				0844.0	0846.1	2				CONT

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
19	1626	1755	WEIS										
			PALE				1837.9	1841.8	1				CONT
	2037	2400	CULG	2039	2400		2041	2400					IN,W
			CULG				2054	2246					IIIN,W
			CULG				2118		1				UNCLF
	2135	2400	MANI										
			CULG				2217	2217.5	1				I
20	0000	1000	MANI										
	0000	0735	CULG				0008	0727					IN,W
			CULG	0023	0039	1							IS
			CULG	0050	0110								IN,W
			CULG	0110	0120								IS,W
			CULG	0120	0532								IN,W
			CULG	0125.5			0125.5						IIIB,W
			CULG	0145	0145.5	1							I
			CULG				0223		1				IIIB
			CULG				0227.5						IIIB,W
			LEAR				0353.4	0354.1	1				V
			CULG				0353	0353.5	1				IIIG,U
			CULG				0411.5		1				IIIB
			LEAR				0411.8	0412.3	1				CONT
			CULG				0412						IIIB,W
			LEAR				0420.2	0420.4	1				CONT
	0459	1753	WEIS				0526.0	1632.0	3				III
	0500	1210	DWIN	0528.0	0528.8	1							IIIG
			CULG	0528	0529	1	0528.5	0529.5	1				IIIG,U
			CULG				0529		2				IIIB,U
			CULG	0532	0625	1							IS
			CULG	0625	0731								IN,W
			LEAR				0646.4	0646.6	1				CONT
			CULG				0646.5						IIIB,W
			DWIN	0911	0943	2						IV	
			WEIS				0915.0	0936.0	3			II	HARM
			WEIS				0916.4	0927.5	2				IIIG
			LEAR				0920.2	0926.3	1				CONT
			LEAR				0928.9	0933.7	1			II	
			WEIS				1245.7	1246.3	3				IIIG
	1510	1903	DWIN	1609.0	1610.1	1							IIIG
			PALE				1937.8	1938.0	1				III
	2036	2400	CULG	2036	2400		2036	2400					IS,W
			CULG				2124.5	2125.5	1				IIIG
	2156	2400	MANI										
			CULG	2230.5	2233	1	2230.5	2233	2				IIIGG,V
			PALE				2247.4	2247.7	2				V
			CULG				2348.5		1				IIIB
			CULG				2348		2	2348	2348.5	1	IIIB,V
			CULG				2349		1				IIIB
21	0000	0735	CULG	0000	0735		0014	0104					IN,W
	0000	1000	MANI										
			CULG				0104	0107	1				IS
			CULG				0107	0735					IN,W
			PALE				0129.8	0133.5	2				V
			CULG				0130.5	0135.5	2	0131	0131.5	2	IIIG,V
			CULG	0133	0134.5	1	0132	0135	1				IIIN
			CULG				0134	0134.5	2	0134	0134.5	1	IIIG
			CULG	0202.5	0203.5		0202.5	0203.5					IIIG,W
			LEAR				0203.0	0203.5	1				V
			CULG				0236						IIIB,W
			CULG				0247	0249					IIIG,W
			CULG				0252	0253					IIIG,W
			LEAR				0254.5	0953.0	1				B
			CULG				0432		1				IIIB
			LEAR				0607.1	0645.4	2			IV	
	0459	1026	WEIS				0607.3	0616.4	3				IIIGG/V
			CULG				0607	0616.5	3				IIIGG,V
			CULG	0608.5	0620	1						IV	
	0500	1900	DWIN	0608	0655	2						IV	
			LEAR				0612.5	0625.3	2			II	

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
21			MEIS				0615.0	0643.0	3				II HARM,HB
			CULG				0615	0633.5	3				II
			CULG				0633.5	0646.5	2				II H
			CULG	0648	0652								IV W
			MEIS				0711.4	0711.6	1				IIIB
	1032	1753	MEIS				1034.8	1035.2	1				IIIB
			MEIS				1041.0	1041.3	1				IIIG
			MEIS				1104.4	1105.0	1				IIIG
			MEIS				1208.7	1208.8	1				IIIG
			MEIS				1215.9	1216.8	3				IIIG
			MEIS				1222.1	1222.3	1				IIIB
			MEIS				1247.6	1247.7	1				IIIB
			MEIS				1322.6	1322.7	1				IIIB
			MEIS				1329.6	1331.8	3				IIIG
			MEIS	1333.7	1333.8	2							IIIG
			MEIS				1344.8	1347.1	3				IIIG/V
			MEIS				1356.8	1358.2	2				IIIG
			MEIS				1404.7	1407.0	2				IIIG
			MEIS				1416.3	1421.6	3				IIIG,RS
			MEIS				1424.5	1424.7	1				IIIG
			MEIS				1524.0	1524.6	2				IIIG
			MEIS				1549.0	1550.1	3				IIIG
			MEIS				1620.6	1620.8	1				IIIB
			MEIS				1647.6	1648.1	2				IIIG
			MEIS				1648.6	1649.5	2				IIIG
			MEIS				1702.8	1708.5	2				IIIG
			MEIS				1724.5	1727.7	1				U
			PALE				1751.0	1753.2	2				II
			MEIS				1751.2	1752.5	3				IIIG
			PALE				1803.1	1803.6	2				V
			PALE				1805.7	1805.8	1				III
			PALE				1907.9	1909.5	2				V
			PALE				1919.1	1919.5	2				V
			PALE				2000.9	2003.0	2				V
			CULG	2036	2137								IS,W
	2036	2400	CULG				2036	2129					IIIN,W
			CULG				2038	2126					IN,W
			CULG				2125.5	2126.5	1				IIIG
			CULG				2126	2244	1				IS
			PALE				2129.0	2131.8	2				V
			CULG				2129	2132	1				IIIN
	2130	2400	HANI										
			CULG				2132	2230					IIIN,W
			CULG				2134.5		1				IIIB
			PALE				2136.2	2137.3	3				V
			CULG				2136	2137	3				IIIG,V
			CULG	2137	2400	1							IS,C
			CULG				2206.5		1				IIIB
			CULG				2221.5		1				IIIB
			CULG				2230	2400	1				IIIN
			CULG				2233.5	2234	1				IIIG,U
			CULG				2244	2400	1				IS,C
			CULG	2250.5	2251	1							IIIG
			PALE				2257.0	2258.1	2				V
			CULG				2257	2258.5	2				IIIG,V
			CULG				2302		1				IIIB,U
			CULG				2324.5		2				IIIB
			PALE				2331.1	0450.0	1				B
			CULG				2343	2343.5	2				IIIG
22			PALE				0000.4	0003.9	2				CONT
			CULG				0000.5	0001.5	2	0000.5	0001.5	1	IIIG
	0000	0735	CULG	0000	0406	2	0000	0607	2				IS,C
	0000	1000	HANI										
			CULG				0002.5	0004	2	0002.5	0004	1	IIIG
			CULG				0009.5	0011	2				IIIG
			CULG				0012.5	0013	2				IIIG
			CULG				0015.5						IIIB,W
			CULG				0106			0106			IIIB,U,W
			CULG				0145.5						IIIB,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
22			CULG							0145.5	0146	2	IIIB,V
			CULG							0148.5	0149	1	IIIB
			LEAR				0200.0	0321.0	2				IV
			LEAR				0200.0	0953.0	2				B
			CULG				0216.5	0219	2	0217	0219	2	IIIGG
			LEAR				0216.8	0228.3	2				CONT
			LEAR				0216.8	0219.0	2				IV
			CULG				0226	0706	1				N,RS,DP,W
			CULG				0227	0228	2	0227.5		1	IIIB,U
			LEAR				0321.0	0953.0	2				B
			CULG	0353	0354.5	1	0353	0354.5	1				IIIS
			CULG				0355.5	0356	2	0355.5	0356	2	IIIG,V
			CULG				0356.5		1	0356.5		1	IIIB
			CULG				0408		2				IIIB
			CULG	0431	0712								IN,W
	0500	1803	DWIN										
	0502	1719	WEIS				0502.0	1246.0	2				IN
	1724	1750	WEIS				0503.0	1736.0	2				IIIN
			CULG				0504		2	0504		1	IIIB
			CULG				0607	0729	1				IS
			CULG				0617.5						IIIB,W
			CULG				0619.5	0620	2				IIIB,V
			CULG				0620.5						IIIB,W
			CULG				0621		2				IIIB
			BLEN				1224.7	1224.7	2				III,B
			BLEN				1258.2	1302.8	2				IIIG
			BLEN				1337.8	1339.7	3				IIIG
	1612	1725	BLEN	1345	1725 D	1	1130	1725 D	2				I,DC
			BLEN				1352.3	1356.2	2				III
			BLEN				1507.5	1507.5	2				IIIB
			BLEN	1604.5	1604.5	1	1604.5	1604.8	1				III
			WEIS				1638.2	1640.5	3				IIIGG
			PALE				1638.4	1640.5	2				CONT
			BLEN	1641.0	1642.3	2	1638.0	1642.3	3				IIIGG
			PALE				1906.8	1907.5	2				CONT
			PALE				2025.0	2025.8	2				CONT
	2036	2400	CULG	2036	2219								IS,W
			CULG				2044	2400					IN,W
			CULG				2050.5	2051	1				IIIG
			CULG	2107	2214								N,RS,DP,W
	2142	2400	MANI										
			CULG	2219	2255								IN,W
			CULG				2247.5	2249.5	1				IIIG,V
			CULG				2338	2352					IIIN,W
			CULG				2343.5	2345.5	2				UNCLF
			PALE				2343.8	2346.7	2				CONT
			PALE				2350.0	2352.1	1				CONT
			CULG				2350		1				IIIB
			CULG				2351.5	2358.5				II	W
23	0000	0605	MANI										
	0000	0735	CULG				0018.5	0019.5	1				I
			CULG	0127	0137								IN,W
			CULG	0137	0155								IS,W
			CULG	0240	0451								IS,W
			CULG	0301.5	0302	1							I
			CULG	0305	0600								N,RS,DP,W
			CULG	0307	0314	1							I
			LEAR				0411.2	0412.0	1				CONT
			CULG				0411.5		1				IIIB,U
			CULG				0413.5						IIIB,W
			CULG				0414						IIIB,W
			LEAR				0423.7	0425.3	2				V
			CULG				0424.5						IIIB,W
			CULG				0424		2				IIIB
			CULG				0425	0425.5	3	0425	0425.5	2	IIIG,V
			CULG	0451	0731								IN,W
	0900	0834	DWIN										
	0525	0910	BLEN	0525 E	1726 D	1	0525 E	1726 D	1				I,DC
	0502	1748	WEIS				0638.8	0638.9	1				IIIB

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
23			WEIS				0652.4	0652.5	1				IIIB
			WEIS				0737.0	0737.7	2				IIIG
			BLEN	0746.3	0753.7	3	0737.1	0754.3	2				IIIGG
			WEIS				0746.5	0846.9	1				IIIG
			WEIS				0753.5	0754.3	1				IIIG
			WEIS				0826.1	0826.3	1				IIIG
			WEIS				0835.0	0835.2	2				IIIB
	0856	1005	DWIN	0909.0	0909.3	2							IIIG
			BLEN	0909.1	0909.4	2							III
			WEIS				0959.2	0959.3	1				IIIG
			WEIS				1023.4	1024.1	2				IIIG
	1017	1726	BLEN				1023.5	1024.0	1				IIIG
			BLEN	1248.5	1310.5	3	1248.8	1303.5	3			IV	P
	1100	1800	DWIN	1248	1316	3						IV	
			WEIS	1249.3	1301.0	2							III
			WEIS				1249.5	1251.6	2				IIIG,RS
			WEIS				1259.5	1303.2	2				IIIG,RS
			WEIS				1430.9	1431.4	2				IIIG
			BLEN	1431.1	1431.5	3	1431.0	1431.5	2				IIIG,U
			BLEN	1512.5	1513.4	1							IIIG
			WEIS				1556.6	1557.7	1				IIIG
			BLEN				1712.5	1713.1	2				IIIB
			WEIS				1712.7	1713.0	2				IIIG
			PALE				1837.2	1939.1	2				V
	2036	2400	CULG	2038	2400								IS,W
			CULG	2044	2400								N,RS,DP,W
			CULG				2112.5						IIIB,W
			CULG				2113.5	2114	1				IIIG
			PALE				2113.5	2113.8	1				III
	2130	2400	MANI										
			CULG				2134.5						IIIB,W
			CULG				2142.5						IIIB,W
			CULG				2203.5	2204	2				IIIB,V
24	0000	0654	CULG	0000	0055								IS,W
	0000	0956	MANI										
			CULG	0042	0548								N,RS,DP,W
			CULG	0055	0617								IN,W
			CULG				0057		1				IIIB
			CULG				0123.5			0123.5			IIIB,W
			LEAR				0200.0	0954.0	1				B
			CULG				0326	0646					IN,W
	0500	1800	DWIN										
	0527	0910	BLEN	0527 E	1727 D	2	0527 E	1727 D	2				I,DC
			WEIS				0539.0	1713.0	1				IN
	1017	1425	BLEN	0627.6	0628.2	2	0627.7	0628.3	2				III
	0504	1135	WEIS				0627.8	0628.2	1				IIIG
			CULG	0628									IIIB,W
	1527	1550	BLEN	0651.0	0657.6	1	0657.4	0657.6	1				IIIG
			WEIS				0827.0	0840.6	1				IIIGG
			WEIS				0844.7	0845.6	2				IIIG
			LEAR				0844.8	0845.0	1				III
	1720	1727	BLEN	0845.5	0845.8	2	0845.5	0845.8	2				IIIG
			WEIS				0959.1	1000.6	1				IIIG
			WEIS				1056.7	1056.9	1				IIIG
			WEIS				1108.9	1109.1	1				IIIB
	1159	1746	WEIS				1303.6	1303.7	1				IIIG
			PALE				1815.0	1817.0	2				III
			PALE				1817.0	2240.0	1				B
	2036	2400	CULG				2038	2051					IIIN,W
			CULG				2115.5	2117.5					IIIG,W
			CULG				2119	2313					IN,W
	2150	2400	MANI										
			CULG	2212.5									DP,W
			CULG				2241.5	2249					IIIN,W
			PALE				2241.8	2246.3	2				V
			CULG							2242	2243	1	IIIG
			CULG				2242	2246	2				IIIN
			CULG				2252	2252.5	2				IIIG
			CULG	2314									IIIB,W

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
24			CULG				2340.5						IIIB,W
25	0000	1000	MANI										
	0000	0734	CULG				0057	0058					IIIG,W
			CULG	0156	0157	2	0156	0156.5	1				IIIG
			CULG				0157.5						IIIB,W
			CULG	0157.5		1							IIIB
			LEAR				0200.0	0205.0	1				III
			CULG	0200.5		1							IIIB
			CULG	0200	0200.5								I,W
			CULG	0208.5	0210								I,W
			CULG				0349						IIIB,W
			CULG	0350.5									IIIB,W
	0527	0910	BLEN	0527	1506.0	1	0527	1511.1	1				I
	0500	1800	DWIN	0531.1	0531.4	1							IIIG
			BLEN	0531.2	0531.4	1							III,G
			BLEN	0551.7	0610.2	2	0551.8	0610.2	3				IIIGG
			BLEN	0633.2	0633.5	2							IIIG
	0638	0919	WEIS				0719.0	1727.0	2				IIIN
			CULG				0719.5						IIIB,W
			CULG				0722.5						IIIB,W
			BLEN	0802.7	0803.6	2	0802.8	0803.0	2				IIIG
			LEAR				0854.5	0855.0	1				V
	1017	1727	BLEN				1238.9	1239.1	3				III
			BLEN	1256.4	1256.9	2							IIIG,RS
	0926	1750	WEIS	1256.6	1256.9	2							IIIRS
			BLEN	1506.0	1727 D	3	1511.1	1727 D	3				I,DC,S
			BLEN				1640.2	1640.3	2				IIIB
			BLEN	1725.8	1725.9	1	1725.8	1726.0	2				III
			PALE				1927.3	1927.5	1				III
			PALE				1958.0	2005.7	2				III
			PALE				2023.6	2024.1	1				V
	2035	2400	CULG	2037	2400								IN,W
			CULG	2047	2357								N,RS,DP,W
			CULG				2056						IIIB,W
			CULG				2140.5	2142					IIIG,W
	2152	2400	MANI										
			PALE				2200.0	0000.0	2				B
			CULG				2207						IIIB,W
			CULG				2218.5		2				IIIB
			CULG				2220		2				IIIB
			CULG				2221.5		2				IIIB
			CULG	2221	2221.5	1	2217.5	2222.5	1				IIIGG
			CULG				2222		2				IIIB
			CULG	2225.5	2227.5	1	2225.5	2228	2				IIIGG,V
			CULG	2229	2232.5	1	2229	2232.5	1				IIIGG
			CULG	2256.5	2257	1							I
			CULG	2313	2314	1	2313	2315	3	2313	2314	2	IIIGG,V
			CULG				2319.5						IIIB,W
			CULG				2320.5						IIIB,W
			CULG				2332						IIIB,W
26	0000	0734	CULG	0000	0304								IS,W
	0000	1000	MANI										
			CULG	0006	0308	1							IN
			CULG	0037	0356								N,RS,DP,W
			CULG				0148.5	0151.5	1	0148.5	0151.5	2	IIIG
			CULG				0204.5	0208.5	1			II	
			LEAR				0205.0	0208.6	1			II	
			CULG				0206	0212				IV	W
			LEAR				0217.6	0065.0	1				CONT
			LEAR				0217.6	0219.8	1				B
			CULG				0217	0611.5					IIIN,W
			CULG				0218		1	0218		1	IIIB
			CULG				0226.5	0227.5	1	0226.5	0227.5	2	IIIG
			LEAR				0226.8	0954.0	1				B
			CULG				0227.5	0239	1				UNCLF
			CULG				0232		1	0232		2	IIIB
			CULG	0304	0704								IN,W
	0500	0840	DWIN										

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
26			CULG							0502.5			IIIB,W
			CULG				0502	0502.5					IIIG,W
	0720	1748	WEIS				0515.0	1111.0	1				IN
	0503	0649	WEIS				0520.0	1706.0	2				IIIN
	0527	0910	BLEN	0527 E	1727	2	0527 E	1727 D	2				I,DC
			CULG				0558		1				I
			CULG				0703	0704	2				IIIG
			CULG				0710		2				IIIB
			CULG				0720	0721	1				IIIG
			WEIS				0844.2	0847.6	3				IIIGG
			BLEN	0844.5	0846.7	2							DCIM
			LEAR				0844.8	0847.4	2				CONT
			BLEN				0845.0	0847.1	3				III,V
	1017	1727	BLEN				1031.7	1032.4	2				IIIG
			BLEN				1120.3	1120.7	2				III
			BLEN				1132.8	1142.7	2				IIIGG
			BLEN				1213.3	1213.9	2				IIIG
	1430	1803	DWIN	1244.4	1245.6	2						IV	
			BLEN				1301.2	1301.4	2				III
			BLEN	1443.8	1445.8	2							III,GG
			BLEN	1642.3	1642.9	2	1642.5	1642.9					III,G,RS
			WEIS				1644.7	1651.3	2				IIIGG,RS
			BLEN	1645.5	1727 D	3						IV	P
			DWIN	1645	1752	1						IV	
			WEIS				1656.7	1658.7	2				III
			BLEN				1657.2	1658.0	3				III,V
			DWIN	1752	1803	3						IV	
			PALE				1753.0	1830.0	2			IV	
			PALE				1830.0	0448.0	1				B
			PALE				1918.8	1919.3	3				V
	2034	2400	CULG	2037	2138								IN,W
			CULG				2108.5	2109	1				IIIG
			PALE				2108.5	2109.5	2				V
			CULG				2108		3				IIIB,V
			CULG				2109.5		1				DP
			CULG	2111.5	2112	1							I
			CULG				2119.5						IIIB,W
			CULG				2120.5						IIIB,W
	2125	2400	MANI										
			CULG				2127.5	2128	2				IIIG,V
			CULG				2127	2127.5	1				IIIG
			CULG				2134.5		1				IIIB
			CULG				2213	2216					I,W
			CULG				2225.5		2				IIIB
			CULG				2231	2348					IIIN,W
			CULG				2242		1				IIIB
			CULG				2255.5		2				IIIB
			CULG				2255	2256	1				IIIG
			CULG				2312	2312.5					I,W
			CULG				2315.5		1				IIIB
			CULG				2322.5		1				IIIB
			CULG				2333.5	2334					I,W
			CULG				2336		2				IIIB
			CULG				2340.5	2341	1				IIIG
			CULG				2341		2				IIIB
			CULG				2359.5		1				IIIB
27	0000	0734	CULG				0033.5	0039					IIIG,W
			CULG				0115		1				IIIB
			CULG				0143	0143.5					UNCLF,W
			CULG				0147.5		1				UNCLF
			CULG				0154.5		1				IIIB
			CULG				0154						IIIB,W
			CULG				0224	0224.5	1				IIIG
			CULG				0225						IIIB,W
			CULG				0234.5	0236					IIIG,W
			LEAR				0257.1	0310.1	3				S
			PALE				0257.2	0310.1	3				CONT
			CULG				0257	0257.5	1				IIIS
			CULG				0258	0258.5	1				IIIB

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27			CULG				0259	0300	2				IIIGG,V
			CULG				0300.5		1				IIIB
			CULG	0301.5	0302.5	1							I
			CULG				0301.5	0726					IIIN,W
			CULG				0302	0302.5	2	0302	0302.5	2	IIIB,V
			CULG				0303	0303.5	2	0303			IIIB,V
			CULG	0304	0304.5	1	0304	0305	1				IIIGG
			CULG				0305	0306.5	2	0305	0306	2	IIIGG,V
	0000	0955	MANI							0307.0	0309.5	1	IIIG
			CULG	0307	0309.5	2	0307	0310	3	0307	0310	3	IIIGG,V
			CULG				0423.5		1				IIIB
	0501	1803	DWIN										
	0529	0910	BLEN				0529 F	1725	2				I
	0504	0605	WEIS				0537.0	1546.0	2				IIIN
			BLEN				0537.2	0538.0	3				III
			CULG				0537.5	0538					IIIG,W
			LEAR				0537.8	0545.2	2				S
			CULG				0541.5	0545	1				IIIG
			BLEN	0543.4	0543.9	2	0542.7	0544.8	3				III,GG
			CULG				0543		2	0543		1	IIIB
			CULG				0544		2				IIIB
	0629	0832	WEIS										
			LEAR				0652.6	0954.0	2				B
			CULG				0703		2				IIIB
			CULG				0704.5		2				IIIB
			CULG				0704.5		1				DP
			CULG				0704		2				IIIB
			CULG				0705.5	0706					I,W
			CULG				0710	0710.5	1				IIIG
			CULG				0718.5	0719.5	2				IIIG
			CULG				0726	0726.5	1				I
			CULG				0732	0732.5					I,W
			BLEN	0840.6	0840.6	1	0840.6	0840.6	2				III
	0912	1746	WEIS										
	0917	1725	BLEN				1230.7	1231.1	2				IIIG
			PALE				1840.4	1854.2	1				S
			PALE				2033.7	2033.9	2				III
	2034	2400	CULG				2034	2207					IN,W
			CULG				2042	2400					IIIN,W
			PALE				2102.3	2103.0	2				V
			CULG				2102	2103	1				IIIG
			CULG	2118	2146								IN,W
			PALE				2134.9	2135.4	3				V
			CULG				2135	2135.5	2				IIIG,V
	2150	2400	MANI										
			CULG				2207	2214					IS,C,W
			CULG				2214	2230	1				IS,C
			CULG				2230	2248					IS,C,W
			CULG				2248	2353					IN,W
28	0000	0733	CULG				0009	0723					IIIN,W
			CULG				0025.5	0034.5	1				IIIG,N
			CULG				0025.5		2				IIIB
			PALE				0025.8	0035.3	2				CONT
			CULG				0027	0027.5	2	0027.5		2	IIIG
			CULG				0044.5	0049.5	2				IIIG,U
			CULG	0050	0447								IN,W
			CULG				0145	0145.5	1				IIIG
			CULG				0150.5	0151.5	2				IIIG,V
			PALE				0150.8	0151.9	2				V
			LEAR				0255.8	0300.5	1				CONT
			CULG				0258.5	0300	1				IIIGG
			LEAR				0333.8	0334.9	1				CONT
			CULG				0445.5	0454	1				IIIG,N
			LEAR				0446.0	0454.8	3				CONT
			CULG				0449.5		2				IIIB
			CULG				0450		2	0450		1	IIIB
			CULG	0451.5	0453	2	0451	0453	3	0451	0453.5	3	IIIGG,V
	0000	1300	MANI							0451.6	0451.8	2	III
	0500	1740	DWIN										

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
28			CULG				0603		1				IIIB,U
			LEAR				0604.1	0605.7	1				CONT
			CULG				0604	0604.5	1				IIIG
			CULG				0605	0606	2				IIIG
			CULG				0707	0707.5					I,W
			CULG				0716.5	0717					I,W
			CULG				0721.5	0722.5					I,W
	0736	1652	WEIS				0739.0	1652.0	2				IIIN
			LEAR				0739.2	0739.7	1				V
			LEAR				0805.2	0805.6	1				V
			LEAR				0837.7	0837.9	1				V
	1721	1748	WEIS										
			PALE				1841.2	1851.8	1				S
			PALE				1954.4	2054.2	1				S
	2034	2400	CULG				2106						IIIB,W
			CULG				2118.5						IIIB,W
	2135	2400	MANI										
			CULG				2143.5		1				IIIB
			CULG				2248						IIIB,W
			CULG				2304	2304.5					IIIG,W
			CULG				2320.5		1				IIIB
			CULG				2352.5	2353					IIIG,W
29	0000	1000	MANI										
	0000	0733	CULG	0443.5	0445.5		0442	0445.5					IIIGG,W
			CULG				0450	0722					IIIN,W
			CULG	0452									IIIB,W
			CULG				0514.5		2				IIIB
			LEAR				0514.5	0514.8	1				CONT
			WEIS				0514.5	0514.7	1				IIIB
	0503	1746	WEIS				0522.7	0523.4	2				IIIG
			LEAR				0522.8	0523.3	1				CONT
			CULG				0523		1				IIIB
			CULG				0604.5		1				IIIB
			WEIS				0645.4	0646.8	2				IIIG
			CULG				0645.5		1				IIIB
	0713	1803	DWIN										
			WEIS				0724.4	0725.0	2				IIIG
			CULG				0724.5	0725	2				IIIG
			LEAR				0724.7	0729.2	2				CONT
			CULG				0728.5	0729	2				IIIG
			WEIS				0728.7	0729.1	2				IIIG
			WEIS				1451.7	1453.2	2				IIIG
	2035	2400	CULG				2042	2354					IIIN,W
	2147	2400	MANI										
			CULG				2200		1				IIIB
			CULG				2234	2320					IN,W
			CULG				2255.5	2256	1				IIIG
30	0000	0817	MANI										
	0000	0733	CULG				0027.5						IIIB,W
			CULG				0129.5		1	0129.5		1	IIIB
			CULG				0158.5						IIIB,W
	0502	1803	DWIN										
			CULG				0556.5						IIIB,W
	0530	0910	BLEN	0839.0	0839.1	1	0839.1	0839.1	1				IIIB
	1017	1720	BLEN				1049.2	1049.3	1				IIIB
			BLEN	1115	1640	2	0901	1640	2				I
			BLEN				1124.7	1125.0	2				IIIG
	0749	1406	WEIS				1124.8	1125.3	2				IIIG
	1414	1746	WEIS										
	2033	2400	CULG										
	2130	2400	MANI										
31	0000	0719	MANI										
	0000	0733	CULG	0345	0346.5								I,W
			CULG	0356.5	0358								I,W
			CULG	0400	0405								I,W
			CULG	0414	0414.5	1							IIIG
			CULG				0512.5						I,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1979

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
31			CULG				0513	0513.5					I,W
	0502	1755	DWIN	0519.3	0519.5	2							IIIG
			DWIN	0519.5	0520.6	1							IV
			CULG	0519.5	0520.5	2	0519	0520.5	2				IIIG,V
	0532	0910	BLEN	0532 D	0900	2	0532 D	0900	2				I
			CULG				0555.5						IIIB,W
	1017	1720	BLEN	0604.1	0605.5	3	0604.2	0605.5	3				IIIG
			CULG	0604	0604.5	1	0604	0604.5	1				IIIG,U
			CULG				0622.5	0623.5					I,W
			BLEN	0647.9	0647.9	2							IIIB
			LEAR				0715.5	0716.0	1				V
	0715	1748	WEIS				0716.7	0717.9	3				IIIG
			BLEN	0717.1	0725.5	3	0717.2	0732.2	3				IIIGG,RS,U
			DWIN	0717.2	0717.6	2							IIIG
			BLEN	0717.5	0718.0	3	0717.5	0718.0	3				V
			CULG	0717	0718	2	0717	0718	2				IIIGG,V
			WEIS				0723.0	1624.0	2				IN
			CULG				0725	0725.5	2				IIIG
			WEIS				0732.2	0732.3	3				IIIB
			CULG				0732		2				IIIB
			BLEN	0804.9	0808.4	2	0804.8	0808.4	2				IIIGG
	0820	0950	MANI										
			BLEN	0907.8	0910.0	3	0909.3	0910 D	3				IIIGG
			WEIS				0909.0	0910.6	2				IIIG
			DWIN	1109.0	1109.2	1							IIIG
			WEIS				1111.1	1112.3	3				IIIGG
			DWIN	1111.3	1111.6	2							IIIG
			BLEN	1111.3	1114.3	3	1111.0	1114.2	3				IIIGG
			BLEN				1111.6	1112.1	3				V
			BLEN	1129.9	1130.1	1							IIIG
			BLEN	1201.7	1205.6	2	1202.6	1205.1	2				IIIGG
			WEIS				1202.5	1202.8	2				IIIG
			WEIS				1205.2	1205.3	2				IIIB
			BLEN	1412	1720 D	3	1414.5	1720 D	3				I
			WEIS				1424.5	1424.9	2				IIIG
			BLEN	1454.0	1454.1	2	1454.1	1454.1	2				IIIB
			PALE				2015.1	2015.3	1				V
			PALE				2017.9	2018.0	2				III
	2033	2400	CULG				2104	2245					IIIN,W
			CULG				2108	2108.5	1				IIIG,U
			CULG				2110.5		1				IIIB
	2135	2400	MANI										
			CULG				2244.5	2245	2				IIIG
			PALE				2245.0	2250.1	2				V
			CULG				2245.5	2246.5	2				IIIG
			CULG	2249		1							IIIB
			CULG				2249	2250.5	2	2249	2250	2	IIIG,V

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitors)

Aug. 1979	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	KULA Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	4182.8	6847.6	6436.3		5958.5	3837.9	3561.4		
2	4125.3	6769.2	6329.4		5762.1	3760.9	3531.1(21)		
3	4136.1	6780.5	6372.1		5771.3	3789.4	3540.3		
4	4155.3	6821.9	6382.6		5788.5	3800.9	3548.0		
5	4189.1	6867.9	6406.3		5819.7	3816.3	3557.4		
6	4207.0	6913.8	6498.4		5881.9	3875.8	3568.7(23)		
7	4213.8	6914.3	6493.7		5874.4	3875.0	3575.0		
8	4213.1	6912.4	6476.9		5884.6	3868.2	3579.0		
9	4235.7	6945.3	6503.8		5895.3	3868.1	3581.5		
10	4252.8	6977.3	6531.4		5918.9	3882.4	3594.5		
11	4234.2	6947.2	6506.5		5887.5	3861.0	3577.2		
12	4199.1	6901.0	6468.2		5853.1	3843.6	3576.7		
13	4168.4	6829.4	6398.1		5801.1	3805.4	3566.0		
14	4121.5	6742.6	6343.8		5762.8	3783.8	3554.6		
15	4133.1	6785.3	6380.1		5764.6	3783.7	3548.5		
16	4160.4	6807.7	6424.5		5797.8	3808.9	3555.3		
17	4162.2	6828.6	6423.9		5796.3	3804.0	3543.7		
18	4098.3	6719.7	6309.8		5729.3	3745.5	3521.8		
19	4049.9	6645.6	6242.8		5680.3	3716.6	3505.2		
20	3847.3	6319.9(17)	5934.9		5359.1	3473.6	3415.9		
21	3837.7	6288.3	5895.0		5354.3	3444.1	3396.5		
22	3895.3	6383.8	5974.4		5420.8	3486.3	3419.7		
23	3903.0	6403.0	5997.0		5459.8	3512.0	3433.0		
24	3896.7	6401.8	5965.5		5457.9	3514.8	3432.6		
25	3862.8	6358.8	5943.3		5426.0	3501.9	3440.6		
26	3881.6	6387.5	5984.1		5457.7	3523.5	3454.4		
27	3934.8	6464.3	6067.5		5513.0	3573.5	3483.0		
28	3990.4	6556.7	6138.8		5577.8	3632.5	3504.1		
29	3926.5	6445.6	6059.7		5505.3	3617.0	3514.4		
30	3940.5	6466.2	6032.3		5510.3	3589.4	3501.5		
31	3999.0	6549.8	6122.5		5580.0	3617.5	3511.8		
MEAN	4069.5	6676.9	6259.5		5682.3	3709.7	3519.0		

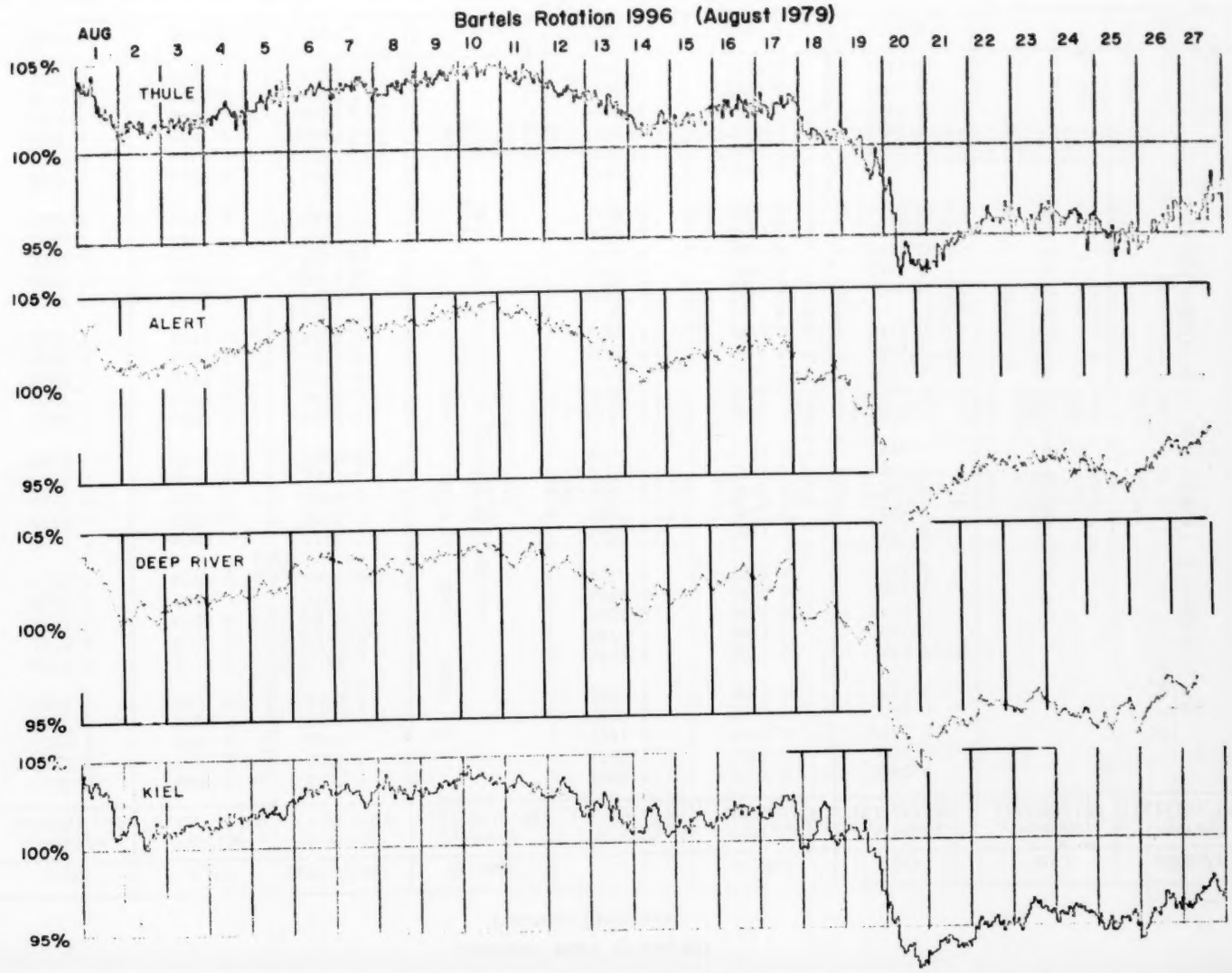
Data not available at time of publication.

Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

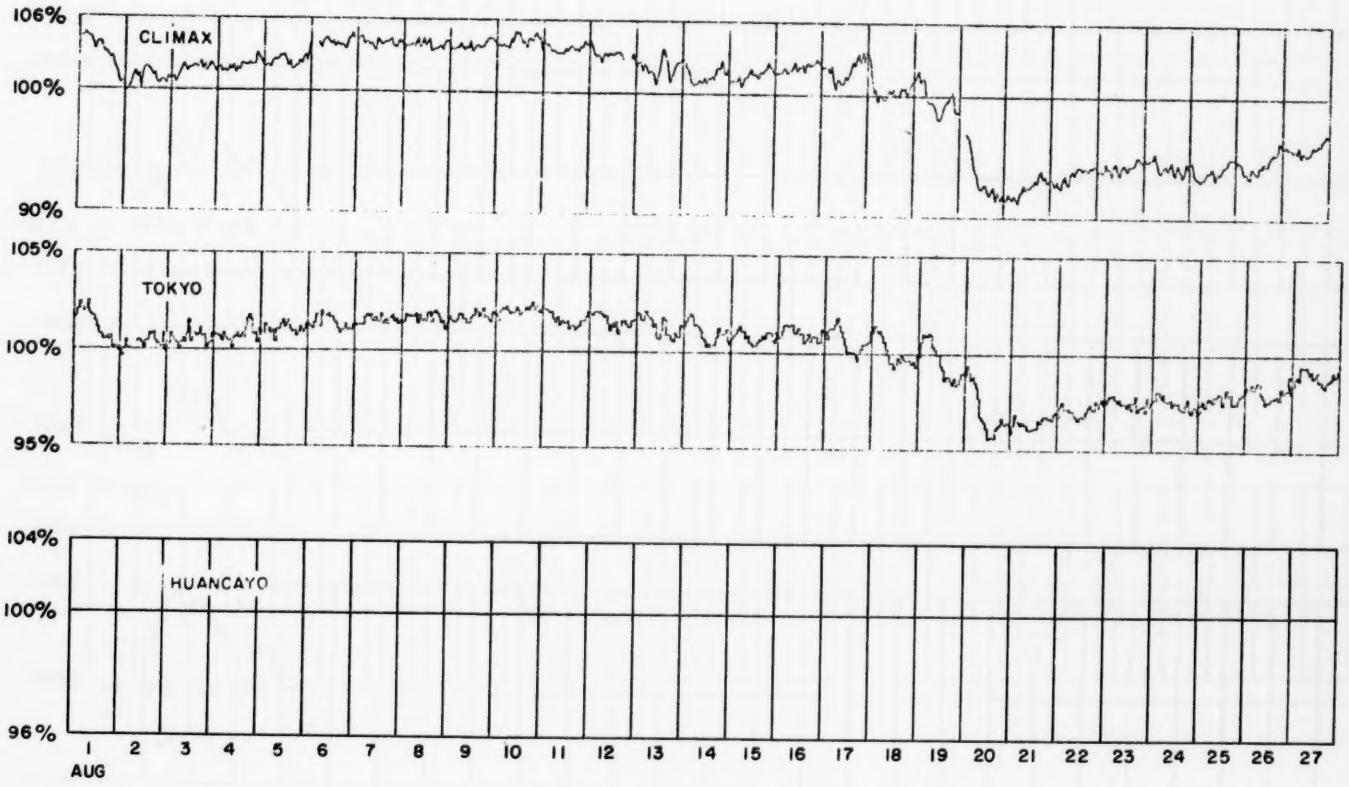
COSMIC RAY INDICES
(Neutron Monitors)



95%

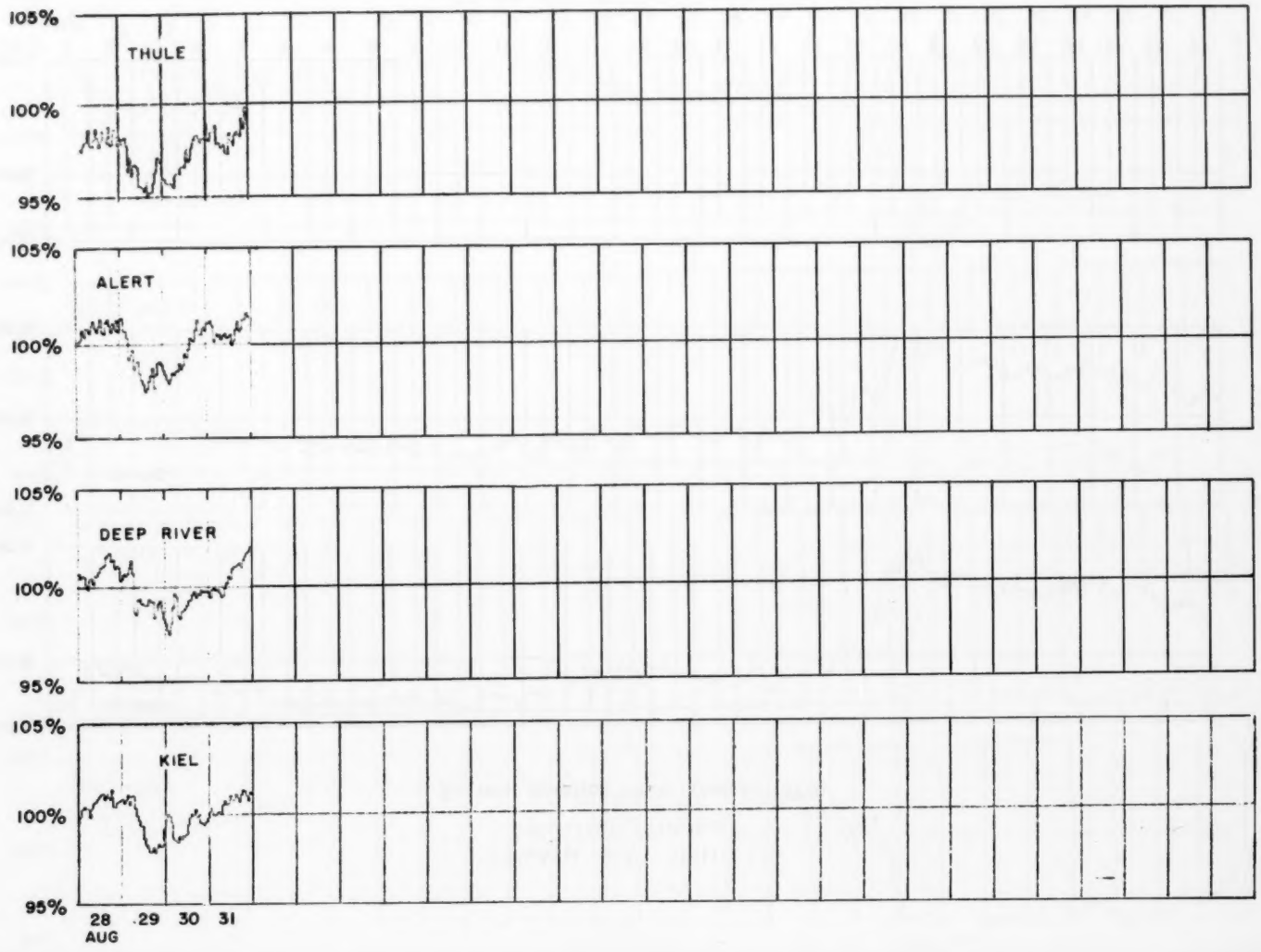
COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1996 (August 1979)



COSMIC RAY INDICES
(Neutron Monitors)

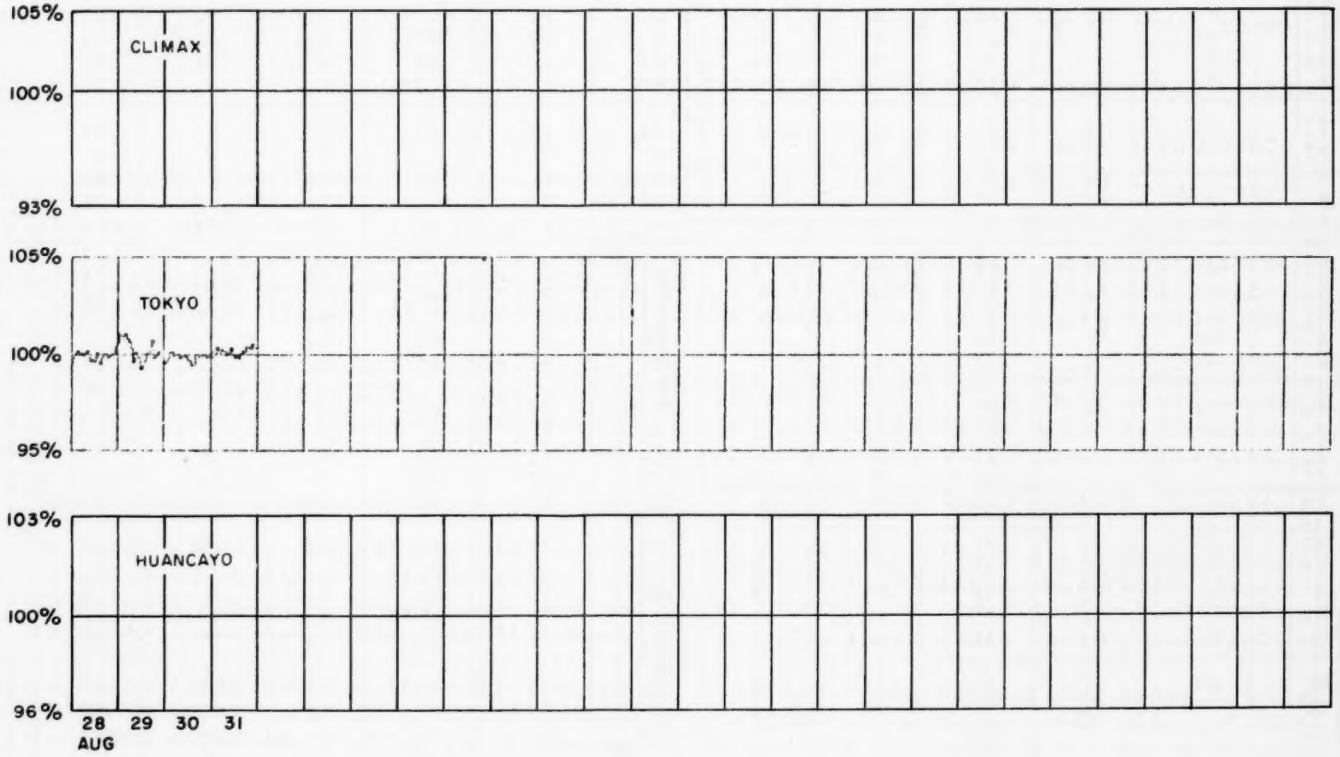
Bartels Rotation 1997 (August 1979)



AUG

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1997 (August 1979)



GEOMAGNETIC ACTIVITY INDICES

AUGUST 1979

Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa *					Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M			
1		0+	0+	1-	4-	5-	4-	3	4-	26	0	0	0+	3+	4-	3-	3-	3+	15	34	23	14	43		0.9
2		3	3	3+	3	1+	2+	2	1-	19-	3-	3-	3+	3-	1+	2+	2-	1-	11	20	16	25	11		0.6
3		2	3	3	3+	2	2-	1	2+	18+	2-	3	3	3	3-	1+	1+	2+	13	19	24	25	18		0.6
4		2+	3+	3+	3-	3+	3-	4	3-	24+	3-	3	3	2+	3	2	3+	3-	16	31	23	22	33		0.9
5	Q8A	1	3-	2	1+	1-	2+	3-	2+	15	1	2+	2	2-	1-	2-	2+	2	4	15	8	10	13	C	0.4
6		3	3+	4	4	4	3+	2	2	26-	3-	3	4	3+	3+	3-	2-	3-	14	34	25	35	25		1.0
7		2	2	3	2	2	2+	3+	3-	19+	2-	2	3+	2+	2+	2	3+	3-	10	22	15	19	29		0.6
8	Q9A	2	2	2-	2-	2	2	3-	2	16	2-	2+	2-	2-	2-	2-	2+	2-	7	19	11	17	19		0.4
9	Q4	2+	2	2-	2	2	2+	1+	0+	14	2	2-	1+	2-	2-	2-	1	0+	6	14	9	13	11	CK	0.3
10	Q5A	1-	1+	1	2-	2	2	3	3-	14+	0+	1+	1	1+	2+	2+	3-	2+	7	15	12	5	22	KK	0.4
11	Q8A	2+	2-	1+	2	2+	2-	3+	3+	18	2+	2-	1+	1+	2	1+	3-	3-	10	21	13	12	22		0.5
12		3	2	2+	4	2-	2-	4-	5+	24-	3	2	2+	3+	1+	2-	3+	5-	15	34	29	29	35		1.0
13	Q2	3	1	3+	7-	7+	7-	7	6-	41-	3	1+	4	5+	6	5+	5+	5-	76	80	81	53	108		1.8
14	Q7A	3+	2-	1+	1	2-	2	2	2-	15-	3+	1+	1+	1-	1	2-	2	1+	7	15	9	12	12	C	0.4
15	Q1	1-	1+	1	1-	1	1+	1+	2	9+	0+	2-	1+	3+	1-	1+	2-	2-	4	9	6	4	12	CC	0.2
16	Q3	1+	1+	2+	1+	2-	1-	1-	1+	11-	2-	1+	2+	2-	1+	1-	3+	1	5	10	7	10	9	CC	0.2
17	Q6A	2	1+	2	1-	1-	3	3+	1	14	2	2-	2	1	0+	2+	3-	1	4	13	11	8	16	KK	0.4
18		1+	1-	1	1	2+	2+	2+	3	16	1+	1	1	1	2	2	3+	4+	11	28	13	8	36		0.7
19	Q4	6-	5	4+	5	4+	4-	3-	4-	34+	5	4+	4+	4+	4-	3+	3	4-	35	55	50	67	39		1.4
20	Q3	3+	3-	4-	3-	3+	7	6+	4+	33+	3+	3-	4	3	3	6-	5+	4-	47	87	45	33	100		1.5
21	Q5	5	4	4-	3+	3+	3-	4-	2+	28	5-	4-	3+	3+	3	3-	3	3+	22	33	25	32	27		1.1
22		3	3-	3-	2+	3	3	3-	2	21+	3-	3-	3-	2+	3-	2+	3-	2-	12	24	13	16	22		0.7
23	Q2	0+	1	2-	1+	2	1	2-	1	10	1-	1	2-	1	1+	0+	1+	1	5	9	4	6	7	CK	0.2
24		1-	1-	1+	2-	2+	5-	4	3-	18	2+	1	1-	2-	2	4-	3+	3-	13	27	14	5	36		0.7
25		2-	2-	3	4+	4-	4	5-	4+	27+	2-	2+	3	4-	3+	3+	4-	4-	22	36	37	28	45		1.1
26		4-	3	3+	3-	3	2+	4-	1+	23	3	3-	3+	2+	3-	2	3	1	15	25	17	27	19		0.8
27		2-	3	3+	3	2	3+	3-	1+	20+	2-	3	3	3	2+	3-	2+	1+	12	22	22	25	19		0.7
28		3	3-	2+	3	2+	2	1-	3-	19-	2+	2	2+	3-	2	2+	1	3-	10	19	14	18	16		0.6
29	D1	3	5-	5+	5+	6	8-	7-	6	45-	2+	4	4+	5	5+	6	4-	5	77	75	90	59	111		1.8
30		5-	4	3+	3-	2-	2-	2-	1+	21	4+	4-	3	2+	2-	1	1+	1+	15	23	22	34	11		0.8
31		1	1+	2	3	4	3-	3-	3	26-	1+	1+	2	3	3+	2	3-	3-	12	19	21	15	25		0.7
																			14	29.2	23.2		26.3		0.75

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	0+	0	0+	4-	4	3	3	3	0	0	0	3	3	2	2	3+
2	3-	3	4-	3	2-	3-	2	1-	3	3-	3+	3-	1+	2	1+	0+
3	2	3	3	3	3-	2-	1+	3-	2-	3	3	3+	2+	1+	1	2+
4	3-	3	3	3-	3	2+	3	3-	2+	3	3	2	3	1+	4-	3
5	1	2+	2	2-	1+	2+	3-	2+	1-	3-	2+	1+	0	1+	2	2-
6	3	3+	4+	3+	4-	3	2	2-	2+	3-	4-	3	3-	1-	1+	1+
7	2-	2-	3+	2+	2+	2-	3+	3-	2-	2+	3	2+	3-	2+	3+	2+
8	2	2	2-	2-	2	2	3-	2	1+	2+	2-	2	1+	1+	2+	1
9	3-	2-	1+	2-	2	2-	1+	0+	2-	2-	1	1+	2-	3-	1-	.
10	1-	1+	1	2-	3-	3-	3	2	0+	2-	1	1+	2+	2-	2	2+
11	2+	2-	1+	2-	2	2-	3	3	2+	2	1	1+	2-	1	2+	3-
12	3-	2	3-	4-	2	2	4-	5	3	2+	2+	3+	1-	1	3+	4
13	3-	1+	4	5+	6	6	5+	5-	3	1+	4-	5+	6-	5-	6-	4+
14	3	1+	1+	1	2-	2	2	2-	4-	1+	1	1-	0	1	2	1
15	1-	2-	1+	1	1+	2-	2-	2-	0+	1+	1	0	0+	1	1+	1+
16	2-	1+	3-	2-	2	1	1-	1+	2-	1+	2	2-	1-	1-	0	0+
17	2-	2-	2+	1+	1-	3-	3	1+	2+	2-	2-	0+	0	2+	2+	1-
18	1+	1	1	1	3-	2+	2+	4+	1+	1	1-	1-	1+	1+	2+	4+
19	5	4+	4	5-	4	4-	3+	4	5	5-	5-	4+	3+	3	2+	3+
20	3	3-	4	3	3+	6	5+	4	4-	3-	4+	3-	3-	5+	5+	3
21	5-	4-	3+	3+	3	3-	3+	3-	5-	4-	3+	3+	3-	2	3-	2
22	3-	3	3-	2+	3	3-	3-	2-	3-	3-	2+	2	2+	2-	2+	1+
23	1-	1-	2	1+	2	1-	2-	1+	1-	1	1	1-	1-	0	1-	1-
24	1-	1+	1-	2	2+	4-	4-	3-	0	1	1-	2-	2-	3+	3	3+
25	2-	3-	3	4-	3+	4-	4	4	2-	2	3-	4-	3+	3-	3+	3
26	3+	3-	3+	3-	3-	2+	3+	1+	3	3-	3+	2	3-	1+	3-	1
27	2	3+	3	3	3-	3	3-	2-	2-	3-	3-	3	2-	2+	2	1
28	3-	2+	3-	3	2+	3-	1+	3-	2+	2	2	2	2-	2-	1-	2+
29	2+	4+	5-	5	5	6	5+	5	2	4	4+	5	5+	6	6	5+
30	4	3+	3-	2+	2-	2-	2-	1+	5-	4	3+	2	2-	3+	0+	1
31	1+	1	2+	3	3+	2+	3	3-	1+	1+	2-	3-	3+	2-	2	3-

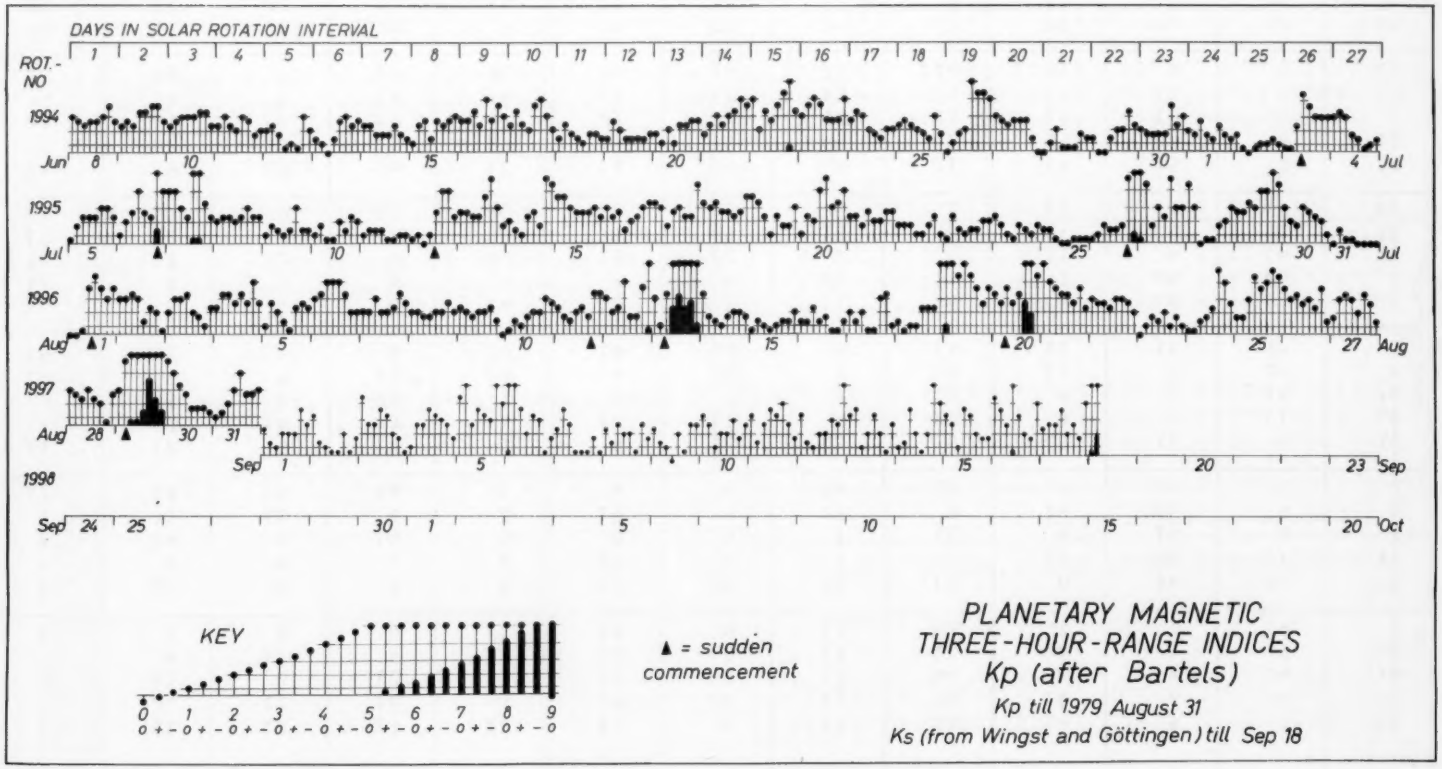
Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) are prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤ 6 but one Kp≥ 3o or two Kp values ≥ 3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Kn, Ks and Km as in *IAGA-Bulletin No. 32* and indices aa ("antipodal") as in *IAGA-Bulletin No. 33* are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. Really quiet (C) and quiet but slightly disturbed three-hourly intervals (K) are given for 24-hour and 48-hour intervals centered on 1200 UT.

DAILY AVERAGE INDICES Ap

	1978				1979							
DAY	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	21	13	13	11	10	6	12	33	18	5	7	16
2	20	12	10	3	19	10	20	36	14	6	4	11
3	11	8	12	5	19	9	13	54	6	4	14	10
4	8	17	5	12	45	19	27	47	7	6	9	16
5	7	8	6	10	23	9	13	52	7	4	9	8
6	14	4	2	5	18	16	30	12	6	34	22	18
7	6	4	9	2	32	6	7	12	11	26	27	10
8	24	5	14	3	8	9	7	12	8	14	9	7
9	31	11	8	3	15	9	15	9	14	15	6	6
10	12	15	16	1	4	6	54	12	7	14	6	7
11	12	5	10	1	4	12	18	6	19	10	4	10
12	13	14	53	4	10	17	6	15	9	7	11	18
13	6	8	22	7	5	3	7	11	8	8	15	76
14	5	5	11	28	8	2	3	15	11	7	14	7
15	3	5	8	28	15	11	8	18	11	10	15	4
16	6	4	6	14	12	7	11	16	5	16	11	5
17	8	5	6	9	7	5	21	11	3	14	14	6
18	3	32	5	48	11	22	7	6	11	6	15	11
19	2	22	13	24	19	15	11	6	24	6	11	35
20	5	9	22	26	12	6	6	2	13	8	18	42
21	9	13	16	12	11	59	4	21	13	15	9	22
22	12	10	26	19	14	33	45	45	36	24	6	12
23	11	6	12	7	27	31	12	23	11	19	6	5
24	10	5	18	6	23	17	15	14	27	10	5	13
25	36	7	60	21	34	14	21	126	34	9	3	22
26	36	18	33	8	28	22	26	12	25	20	17	15
27	51	23	17	14	23	24	18	27	17	10	23	12
28	50	14	5	14	13	17	39	31	11	4	10	10
29	109	16	4	20	13		68	47	30	7	24	77
30	11	25	5	27	16		16	26	10	10	9	15
31		20		18	13		19		6		3	12
MEAN	18	12	15	13	16	15	19	26	14	12	12	18

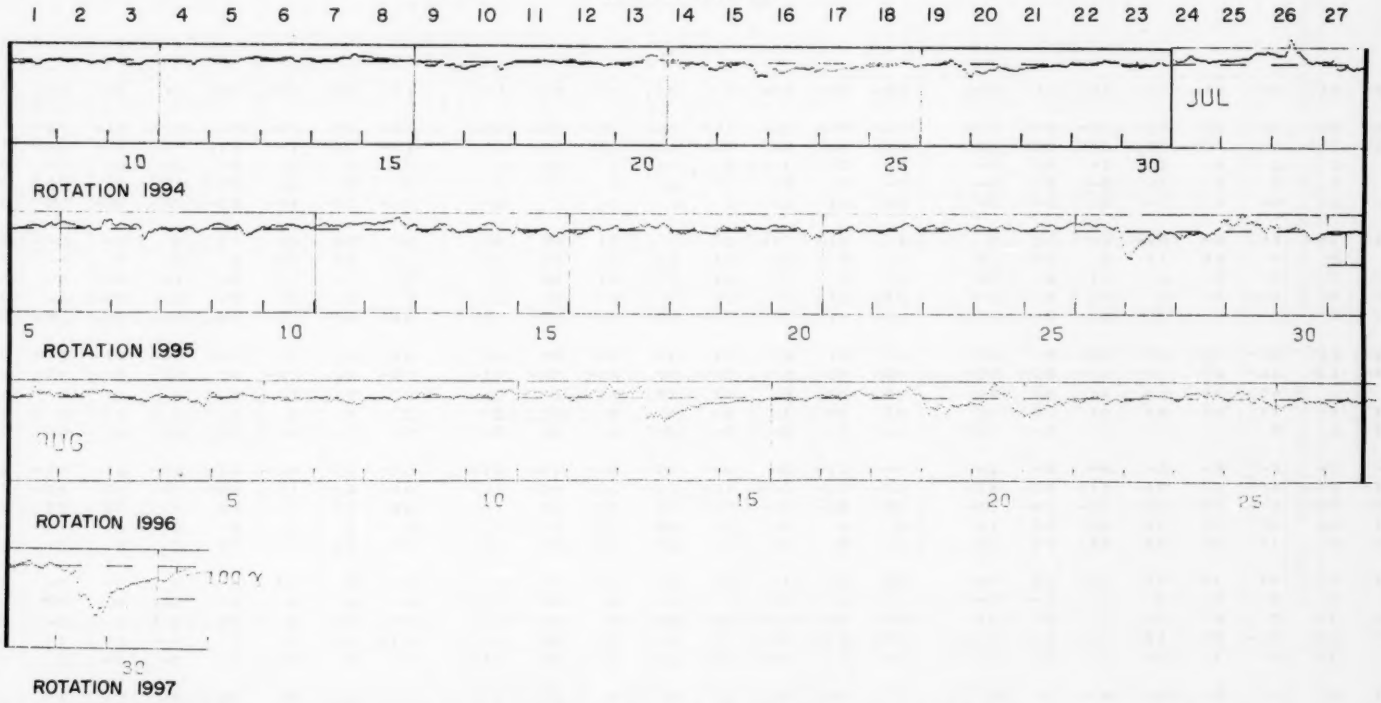
GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

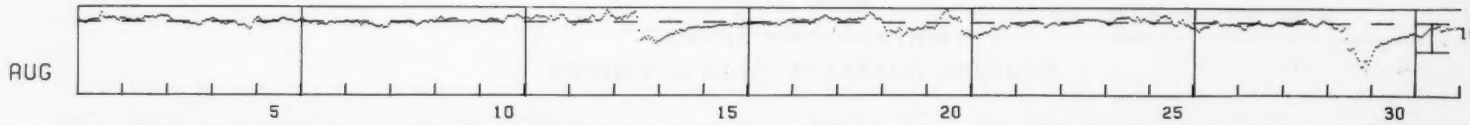
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

AUGUST 1979

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	5	2	-3	-5	-1	5	6	7	9	8	9	18	31	14	11	12	14	12	15	13	7	2	12	11
2	12	7	5	5	4	-1	3	8	6	3	9	15	15	14	15	16	14	12	18	18	22	19	19	19
3	15	8	4	0	-3	0	-2	-2	-6	-5	-3	-8	-9	-8	-8	-12	-13	-11	-1	1	5	5	7	11
4	9	5	2	-2	-9	-3	-10	-10	-5	-1	-3	0	-7	-14	-13	-13	-12	-16	-21	-28	-21	-4	5	12
5	13	7	-3	-6	-6	-1	-3	0	4	2	1	4	9	12	11	8	5	5	4	0	0	-1	5	10
6	8	2	-1	-2	-7	-1	2	0	-11	-8	-7	-7	-10	-10	-2	-1	-1	-6	-1	-2	-1	-3	-1	2
7	2	-1	-3	-4	1	4	-6	-13	-7	-2	-3	-9	-7	-10	-13	-16	-17	-18	-13	-21	-19	-19	-10	-3
8	-1	-2	-3	-4	-4	0	-3	-4	2	-1	-4	-5	-8	-13	-9	-6	-1	2	0	-4	3	3	-1	-1
9	5	12	16	10	3	5	7	9	11	10	9	4	1	1	2	2	-1	-5	1	2	5	4	4	3
10	-1	-2	-1	3	8	11	8	6	8	6	-1	-5	0	11	19	20	20	17	21	25	21	16	12	13
11	15	12	8	12	16	22	20	16	18	18	16	12	8	19	5	7	12	12	23	25	22	11	2	-1
12	-3	-11	-9	0	5	3	2	8	8	9	15	23	19	5	4	5	11	18	29	41	33	20	21	14
13	10	13	15	8	18	21	13	22	31	32	36	16	-30	-63	-59	-52	-60	-47	-60	-53	-64	-73	-65	-64
14	-51	-57	-51	-48	-45	-41	-41	-40	-33	-39	-27	-29	-31	-30	-22	-19	-19	-19	-17	-18	-15	-19	-18	-17
15	-16	-16	-17	-17	-15	-14	-11	-10	-10	-11	-10	-11	-9	-8	-13	-6	-7	-6	-8	-9	-6	-3	-4	-4
16	-7	-5	-4	-3	-3	-2	-3	-8	-2	-6	-8	-7	-6	-4	-3	-9	-10	-3	-1	1	7	8	9	10
17	9	5	3	5	9	8	6	7	-7	0	4	9	11	11	16	18	24	22	15	13	10	11	14	12
18	7	3	3	4	9	12	10	8	10	10	14	12	13	13	22	25	35	30	25	14	11	14	9	1
19	-17	-28	-46	-26	-30	-32	-35	-29	-18	-25	-46	-38	-33	-19	-23	-24	-26	-20	-17	-21	-20	-17	-11	-16
20	-16	-17	-17	-20	-10	-1	16	29	37	46	41	24	18	13	15	10	18	4	-29	-38	-36	-38	-43	-46
21	-52	-47	-55	-43	-40	-39	-35	-35	-34	-29	-20	-20	-23	-23	-16	-11	-10	-15	-19	-11	-1	-3	-2	-5
22	-8	-7	-12	-9	-6	2	0	3	7	6	6	1	-3	-3	-15	-16	-9	-6	-2	0	-3	-9	-8	-5
23	-5	-6	-6	-3	0	-1	-2	3	8	10	10	10	10	10	9	8	10	8	10	7	5	4	3	-2
24	-7	-6	-2	3	9	15	15	17	17	16	17	19	15	10	8	6	20	10	2	11	13	6	6	3
25	-1	-4	-2	8	11	20	21	25	24	16	16	5	-7	-11	-10	4	0	11	-5	-10	-8	-13	-17	-19
26	-18	-26	-32	-22	-18	-14	-13	-13	-2	0	6	7	3	-7	-10	-5	-5	-5	-8	-6	-4	-8	-8	-9
27	-12	-18	-21	-21	-10	-5	-6	-4	-1	2	8	-3	-6	-6	-4	-8	-8	-8	-5	-1	4	2	1	1
28	-4	-7	-8	-7	-8	-2	5	9	7	9	13	13	5	-1	-2	-6	-8	-9	-1	3	9	7	3	0
29	0	-6	-13	-16	-15	-1	-26	-23	-15	-50	-87	-91	-86	-85	-104	-119	-128	-150	-150	-129	-128	-140	-126	-109
30	-93	-79	-78	-73	-65	-67	-66	-65	-59	-59	-53	-51	-51	-50	-46	-46	-43	-44	-42	-43	-37	-37	-33	-34
31	-40	-42	-44	-42	-35	-29	-22	-17	-11	-14	-14	-10	-9	-25	-23	-22	-15	-19	-17	-15	-10	-16	-13	-14



NOTE: The above values are based on data from three observatories: Hermanns, Kakioka, and San Juan. The data from Honolulu are not used because of instrumental difficulties. The Provisional Dst values for July 1979 were also derived from the same three observatories; see the footnote in the July tabulation of provisional Dst values.

PRINCIPAL MAGNETIC STORMS

AUGUST 1979

OBS. 3 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
FRD	49.6N	1	1146	SC	+ 3	+16	- 3	01(5) 02(3,4) 03(4) 04(2,3) 05(2,3,5)	4	16	87	73	05	21
GUL	24.5N	1	1145	SC	- .4	17	- 2		-	7	59	30	02	19
JAI	17.3N	1	1145	SC	- .8	17	- 6		-	6	52	24	02	19
SHL	14.6N	1	1145	SC	- .4	12	3		-	5	58	27	02	19
ABG	09.5N	1	1145	SC	- .6	18	- 6	01(5)	5	6	58	30	02	19
HYB	07.6N	1	1146	SC	- .2	17	- 1	01(4,5,8)	4	6	60	19	02	20
ANN	01.5N	1	1145	SC	- .9	23	9		-	6	81	62	02	19
TRD	11.6S	1	1145	SC	- .1	24	26		-	4	122	54	02	19
PMG	18.6S	1	1146	SC	+ .4	+16	+13	01(5)	5	4	76	35	02	04
EYR	47.3S	1	1147	SC*	.4	18.4	6		-	--	--	--	01	15
KGL	56.6S	1	1146	SC	-22	+14	3	01(6)	4				02	08
FRD	49.6N	11	1813	SC	+ 1	+16	- 3	13(4)	6	28	184	117	14	23
GUL	24.6N	11	1812	SC	- .6	21	3		-	12	161	62	14	00
JAI	17.3N	11	1812	SC	- .6	16	- 4		-	10	172	49	14	00
SHL	14.6N	11	1812	SC	.3	15	7		-	9	200	50	14	00
ABG	09.5N	11	1810	SC	- .5	17	- 3	13(4,5)	6	9	185	55	14	00
HYB	07.6N	11	1813	SC	- .2	16	- 1	11(7,8) 12(1,2,3,4)	3	8	78	34	12	13
ANN	01.5N	11	1812	SC	--	--	--		-	--	--	--	14	00
HUA	00.6S	11	1812	SC	2	51	6	13(7)	6	10	512	67	14	03
TRD	11.6S	11	1812	SC	.1	15	20		-	6	277	155	14	00
SIT	60.0N	12	09--	..	..	..	..	13(5)	7	120	--	650	14	04
NEW	55.1N	12	1524	..	..	..	..	12(6) 13(5,6)	6	40	278	355	14	05
SJG	29.3N	12	1528	SC	--	4	--	13(6)	6	17	158	22	14	03
HYB	07.6N	12	1530	..	..	..	..	13(5,6)	7	9	267	30	14	02
GUA	04.0N	12	1626	..	..	..	..	13(5)	6	10	230	40	14	02
PMG	18.6S	12	17--	..	..	..	..	13(5,6)	6	10	220	50	14	00
GOL	64.6N	13	06--	..	..	..	..	13(5)	7	225	1730	710	14	01
MIT	64.2N	13	0639	SC*	5 *	0 *		13(4,5,6,7,8)	6	39	265	90	14	01
IRK	41.3N	13	0612	SC*	.7	-54	- 3	13(5,6)	6	24	213	56	14	03
HER	33.7S	13	0600	..	..	..	..	13(4,7)	6	25	160	97	14	04
GNA	43.2S	13	0640	SC*	- 4.8	22 *	-24	13(4,5,6)	5	20	120	130	14	09
EYR	47.3S	13	0640	SC*	.7	23	4	13(5)	6	32	175	40	13	23
KGL	56.6S	13	0612	SC*	18	-17	- 5	13(7)	8				14	06
GOL	64.6N	18	21--	..	..	..	..	20(7)	8	278	2130	690	21	13
SIT	60.0N	18	21--	..	..	..	..	19(2)	6	--	740	380	21	12
NEW	55.1N	18	20--	..	..	..	..	19(1,2)	5	40	215	264		
MIT	54.2N	18	19--	..	..	..	..	20(6)	7	40	375	120	21	07
FRD	49.6N	18	21--	..	..	..	..	19(1)	6	35	135	66	22	23
IRK	41.3N	18	2000	..	..	..	..	19(4)	6	25	157	38	20	04
GUL	24.5N	18	2127	..	..	..	..		-	13	89	42	20	01
JAI	17.3N	18	2127	..	..	..	..		-	10	78	50	20	01
SHL	14.5N	18	2127	..	..	..	..		-	9	67	22	20	01
ABG	09.5N	18	2127	..	..	..	..	19(1,3,4)	5	11	77	53	20	01
HYB	07.6N	18	1500	..	..	..	..	19(1)	6	9	66	24	19	24
GUA	04.0N	18	2126	..	..	..	..	19(1)	6	10	130	20	19	18
ANN	01.5N	18	2127	..	..	..	..		-	10	140	73	20	01
HUA	00.6S	18	1350	..	..	..	..	19(1,5)	5	8	275	33	19	24
TRD	11.6S	18	2127	..	..	..	..		-	7	154	109	20	01
PMG	18.6S	18	2125	..	..	..	..	19(1,2,4)	5	6	150	60	20	00
HER	33.7S	18	1900	..	..	..	..	19(1,4)	5	27	85	58	20	05
EYR	47.3S	18	2142	..	..	..	..	19(4)	5	17	72	35	19	16
KGL	56.6S	19	0854	SC*	26	18	2	20(6,7) 21(1)	6				22	22
NEW	55.1N	20	0625	SC	5	62	6	20(6,7)	6	50	326	123	22	22
IRK	41.3N	20	0624	SC	2.8	48	10	20(6,7)	6	20	237	45	21	22
SJG	29.3N	20	0628	SC	.5	21	7	20(6)	6	21	140	44	21	07
GUL	24.5N	20	0624	SC	- .5	40	- 4		-	14	167	59	21	20
HON	21.1N	20	0624	SC	2	6	5	20(6)	4	15	34	43	21	10
JAI	17.3N	20	0624	SC	- .8	42	- 8		-	12	135	54	21	20
SHL	14.6N	20	0624	SC	.6	37	8		-	11	148	48	21	20
ABG	09.5N	20	0624	SC	- 1.1	43	-11	20(6,7)	6	12	152	68	21	20
HYB	07.6N	20	0626	SC*	- .6*	48 *	- 5	20(6,7)	6	10	166	38	21	22
GUA	04.0N	20	0625	SC	--	38	-12	20(5)	5	10	90	50	21	07
ANN	01.5N	20	0624	SC	- 2.8	91	31		-	11	237	87	21	20
HUA	00.6S	20	0624	SC	1	38	7	20(6)	7	9	486	52	21	07
TRD	11.6S	20	0624	SC	.2	88	--		-	7	--	--	21	20
PMG	18.6S	20	0625	SC*	+ 1 *	+36	+32	20(6,7)	5	9	95	55	22	00
HER	33.7S	20	0625	SC*	- 6	14	9	20(6)	6	28	185	150	22	15
GNA	43.2S	20	0625	SC*	4.3*	42 *	18 *	20(6)	6	18	110	90	21	10
EYR	47.3S	20	0626	SC	2.6	59.2	11.5	20(7)	6	26	152	70	21	14
KGL	56.6S	20	0625	SC*	-73	-22	11	20(6,7) 21(1)	6				22	22

NOTE: * Indicates instrumental difficulties. The Provisional Dst values for July 1979 were also derived from the same three observatories, but the July tabulation of provisional Dst values.

PRINCIPAL MAGNETIC STORMS

AUGUST 1979

OBS. 3 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(y)	Z(y)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(y)	Z(y)	UT END DAY	HOUR
NEW	55.1N	24	0836	..	..	..	..	25(4)	5	31	115	155	26	11
HYB	07.6N	24	1000	..	..	..	..	25(4,5)	5	10	154	46	26	10
COL	64.6N	25	07--	..	..	..	..	25(4,5)	6	159	1090	620	25	23
GUA	04.0N	25	1439	..	..	..	..	25(8)	5	10	120	30	26	10
NEW	55.1N	28	2325	..	..	..	..	26(3) 29(5,6)	6	46	313	400	30	12
COL	64.6N	29	03--	..	..	..	..	29(6)	7	345	1780	1150	30	13
SIT	60.0N	29	03--	..	..	..	..	29(3)	7	80	--	880	30	12
WIT	54.2N	29	0459	SC*	12	- 4 *		29(6)	7	42	320	180	30	03
FRD	49.6N	29	0459	SC	- 1	+44	- 6	29(6)	6	26	210	175	01	00
IRK	41.0N	29	0459	SC*	- 2.8	13	2	29(5,6,7)	6	31	179	99	30	12
SJG	29.3N	29	0558	SC	--	26	7	29(6)	6	11	173	37	30	07
GUL	24.5N	29	0457	SC	- .2	10	- 1		-	13	179	71	31	00
JAI	17.3N	29	0457	SC	- .3	20	- 3		-	12	195	58	31	00
SHL	14.6N	29	0457	SC	.3	20	4		-	11	240	60	31	00
ABG	09.5N	29	0457	SC	- .3	23	- 3	29(4)	6	11	248	59	31	00
HYB	07.6N	29	0459	SC	- .2	31	- 4	29(4,5,6,7)	7	9	281	31	30	12
GUA	04.0N	29	0448	..	..	..	..	29(4)	6	10	200	40	30	11
ANN	01.5N	29	0457	SC	- 1.5	62	17		-	9	348	91	31	00
PMG	18.6S	29	0459	SC	+ .9	+19	+21	29(4)	6	9	230	100	31	00
HER	33.7S	29	0459	SC	- 4	13	7	29(8)	6	39	214	141	30	12
GNA	43.2S	29	0458	SC	1	6	4	29(5)	6	29	130	230	30	11
EYR	47.3S	29	0500	SC	1	17.2	6	29(4,5,6,7)	5	28	173	106	30	06
KGL	56.5S	29	0459	SC*	-24	-24	- 4	29(6,7)	8				30	11

Reports were received from the following observatories:

ALIBAG ANNAMALAINAGAR COLLEGE EYREWELL FREDERICKSBURG GNANGARA GUAM GULMARG HERMANUS HONOLULU HUANCAYO
HYDERABAD IRKUTSK JAIPUR KERGUELEN NEWPORT PORT MORESBY SAN JUAN SHILLONG SITKA TRIVANDRUM WITTEVEEN

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

AUGUST 1979

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS

The meaning of the station symbols is given in the IAGA-Bulletin no. 32h, page 106-116.
Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

01 1146: A: ESK VIC FRD MPO;
B: SOD DOB WNG WIT DOU FUR AQU EBR COI TOL QUE KGL DUM;
C: HAD HAZ KNY HUA CZT

11 1812: A: FUR FRD HUA;
B: WNG WIT DOU MMB AQU EBR COI KAK;
C: NGK VAL HAD TOL HAZ KNY (b: A: MPO)

13 0611: A: NUR COI MPO;
B: SOD DOB WNG NGK VAL FUR CZT KGL;
C: ESK (si: B: DOU EBR)

13 0639: A: SOD NUR;
B: HAZ;
C: WIT HAD AQU DUM (si: A: FUR; B: EBR - pi1: A: MMB)

20 0625: A: NUR VIC MMB COI HAZ QUE HUA MPO KGL;
B: SOD WNG NGK VAL AQU TOL KAK KNY CZT DUM;C: HAD EBR (si:A:FUR)

29 0459: A: SOD DOB NUR ESK DOU FUR COI FRD QUE MPO;
3: WNG WIT VAL MMB AQU TOL KAK HAZ KNY CZT KGL DUM;
C: NGK HAD EBR

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

16 0456 - 0507 HAZ

17 1607 - 1626 SOD QUE (bp: C: MPO)

18 1346 - 1455 WNG AQU EBR TOL HUA?

21 0150 - 0157 HAZ

23 0743 - 0758 WIT

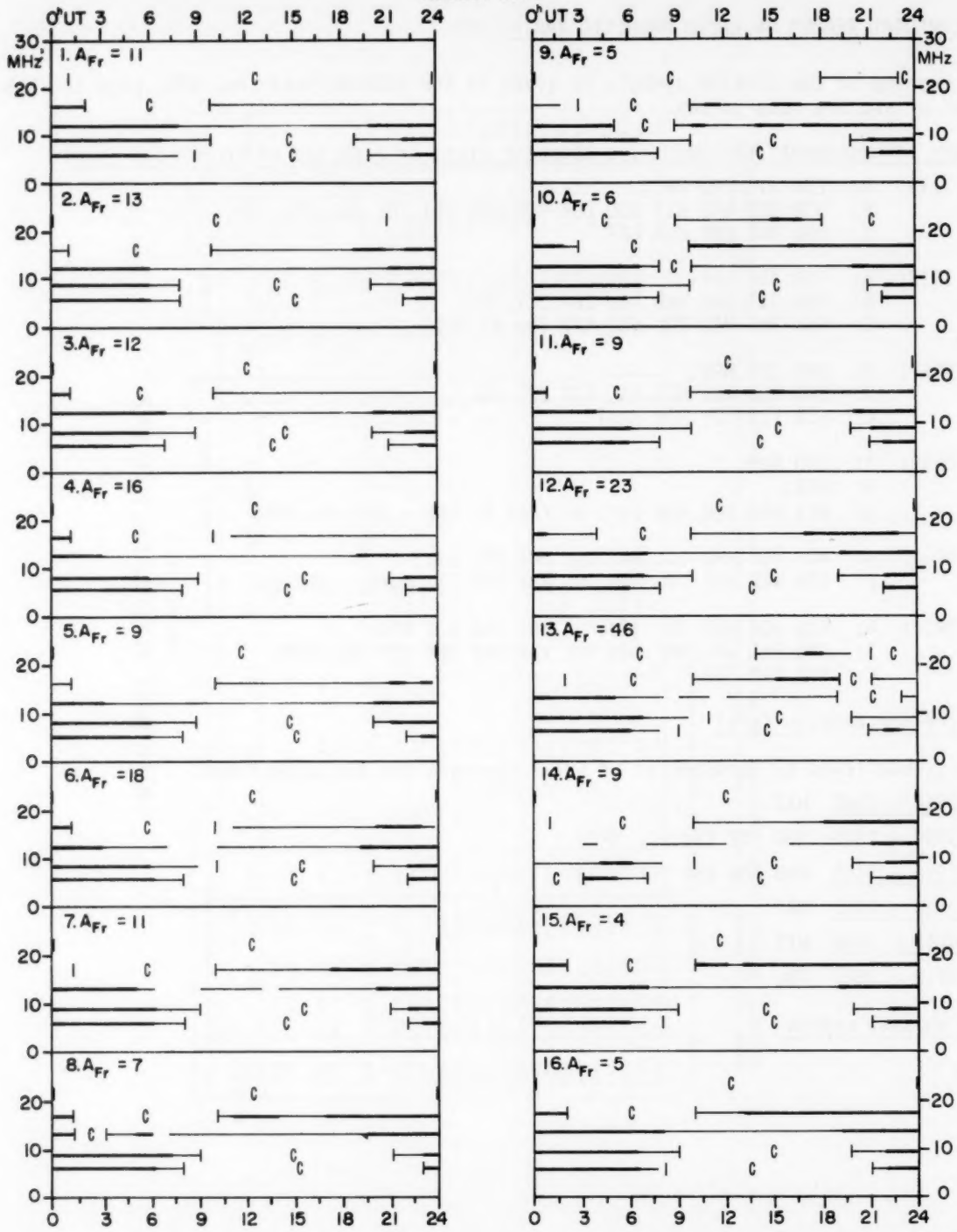
26 0913 - 0927 TOL

Very unusual events

None

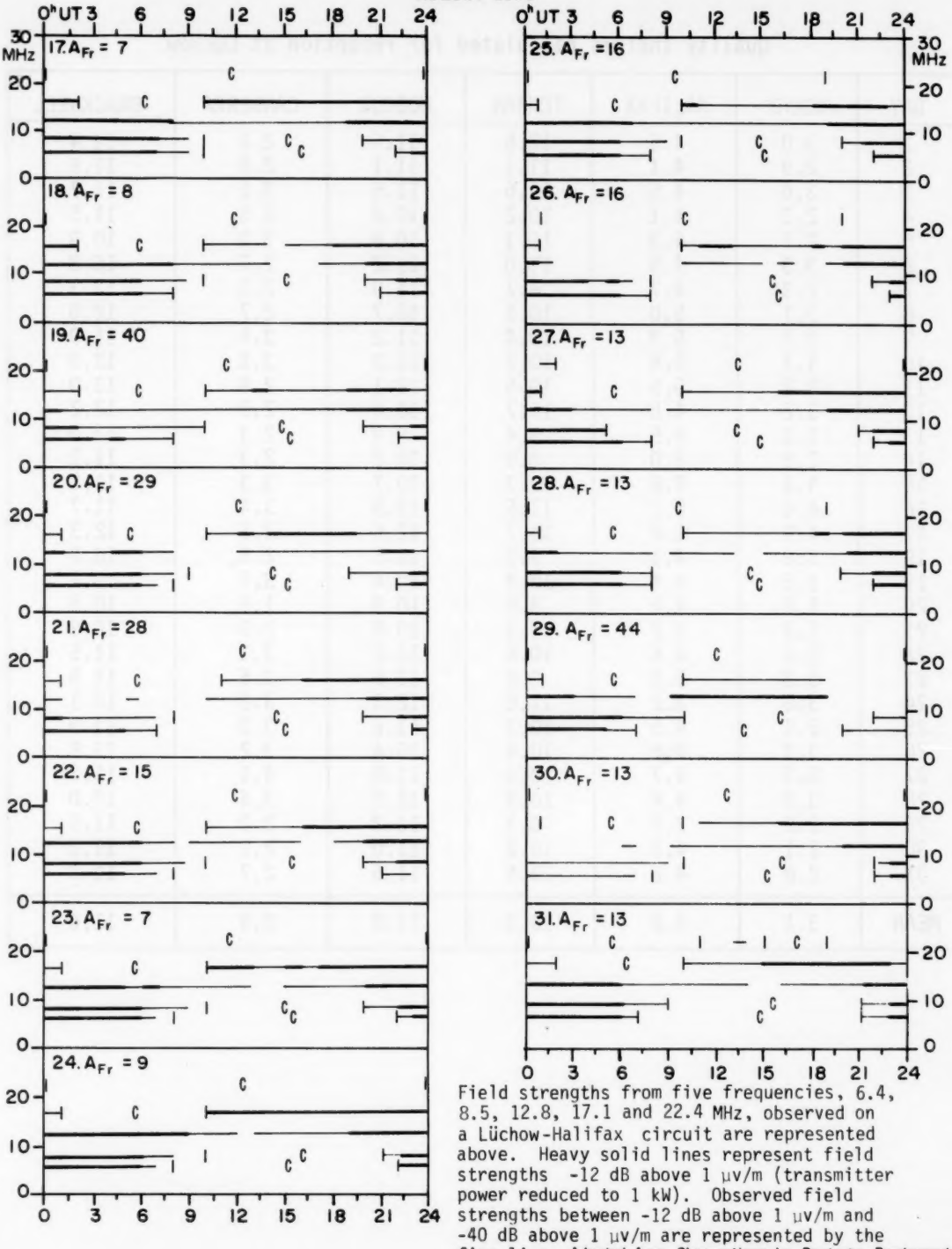
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1979



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1979



Field strengths from five frequencies, 6.4, 8.5, 12.8, 17.1 and 22.4 MHz, observed on a Lüchow-Halifax circuit are represented above. Heavy solid lines represent field strengths -12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

AUGUST 1979

Quality Indices calculated for reception at Lüchow

DAY	TOKYO	HALIFAX	TEHRAN	MOSCOW	CANBERRA	BRACKNELL
1	3.0	4.5	10.5	11.5	2.1	11.4
2	2.9	4.1	11.1	11.1	2.9	11.6
3	3.6	4.5	10.6	11.5	3.1	11.7
4	2.3	4.1	10.2	10.8	2.8	11.5
5	2.7	4.3	10.1	10.6	3.0	10.9
6	3.3	4.5	11.0	11.2	2.7	10.8
7	2.3	4.7	9.7	11.9	2.3	12.3
8	3.1	5.0	10.3	10.7	2.7	12.0
9	3.7	5.3	10.4	11.2	3.4	11.9
10	4.1	5.4	10.3	12.2	3.2	12.9
11	3.2	5.5	10.5	12.1	2.9	13.0
12	3.2	4.8	10.7	10.4	2.9	12.2
13	1.3	4.5	9.4	9.9	2.3	12.0
14	2.8	5.0	8.9	10.2	2.3	11.2
15	4.3	5.8	10.3	10.7	3.3	11.5
16	4.0	5.7	11.5	10.9	3.4	11.7
17	4.9	6.4	10.7	12.6	3.6	12.3
18	3.8	4.1	9.9	11.5	2.5	10.9
19	1.8	4.4	10.3	10.4	3.5	10.7
20	1.6	4.1	8.6	10.8	1.5	10.5
21	1.9	5.2	11.3	10.8	2.9	10.8
22	3.9	4.6	10.6	12.2	3.3	11.5
23	5.3	5.6	9.6	12.5	3.6	11.5
24	3.8	6.2	11.0	12.3	3.8	12.1
25	2.4	4.5	10.3	11.6	3.3	11.9
26	3.3	4.6	10.8	10.4	3.2	11.8
27	3.3	4.7	10.9	11.9	4.1	11.7
28	3.8	4.4	10.9	12.0	3.4	12.0
29	2.?	2.9	8.3	11.3	2.0	11.5
30	2.1	4.9	10.2	11.0	2.7	11.2
31	2.8	4.8	10.5	11.6	2.7	11.9
MEAN	3.1	4.8	10.3	11.3	2.9	11.6

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P-A STACKS

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noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

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Solar - Geophysical Data

NO. 422 OCTOBER 1979

Part II (Comprehensive Reports)

DATA FOR
APRIL 1979
FEBRUARY 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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Solar-Geophysical Data, 414 Part I (or Part II), pages, December 1979 U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80303).

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No. 422

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

APRIL 1979

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
1	35000	NAGO	23 GRF	0029	0030	11	15			
	5730	IRKU		0218.5	0232		47			O
	5730	IRKU		0218.5	0225.8		32			O
	5730	IRKU	21 GRF	0218.5	0219.5	30	26			O
	9100	GORK	1 S	0536.2	0513.5	13.3D	4.5	2.5		
	500	HIRA	8 S	0516.4	0516.6	.3	60	40		O
	500	HIRA	46 C	0524.7	0525.3	.6	38	22		WR
	9100	GORK	1 S	0539.7	0542.5	7	7	3.5		
	9100	GORK	2 SF	0549.4	0550.6	6.8	9	4.5		
	9100	GORK	22 GRF	0613.6	0631.3	26.3	10	5		
	10400	BERN	20	0659.6	0714.7	34	12			OPR
	8400	BERN	20	0659.6	0714.7	34	13			OPR
	9100	GORK	22 GRF	0713.1	0725	15.2	8	4		
	8400	BERN	21	0735.4	0754.5	28	44			OPR
	10400	BERN	21	0735.4	0754.5	28	27			OPR
	2950	GORK	21 GRF	0735.8	0800	94	10			
	15000	KISV		0737	0741.8		14			
	15000	KISV		0737	0738.5		14			
	15000	KISV	40 F	0737	0743.7	12	15			
	6100	KISV	8 S	0740	0754.8	35	22			
	15000	KISV	4 S/F	0748.7	0754.5	12	24			
	4995	ATHN	S/F	0751.6	0754.7	9.2	50.6	15.2		
	9500	BERL	3 S	0752.5	0754.5	3.5	28			
	3100	CRIM	1 S	0753	0754	3	14	5		
	2695	ATHN	S	0753	0754.6	6	9.5	2.8		
	8800	ATHN	S	0753.7	0754.3	7.3	40.3	12.1		
	9100	GORK	23 GRF	0753.7	0755.7	17.5	6	3		
	9100	GORK	3 S	0754	0754.6	1.5	23	11		
	2950	GORK	1 S	0754	0754.7	1.8	11	5.5		
	3000	BERL	3 S	0754	0754.6	1.6	9.5			
	10715	DWIN	1 S	0754	0754	2	15	10		
	5730	IRKU	1 S	0755	0756.6	3	43	11		O
	9100	GORK	22 GRF	0815.3	0846	41	14	4.5		
	15000	KISV	21 GRF	0833	0846.2	15	14			
	260	ONDR	3 S	0927.8	0927.8	.2	9			
	9100	GORK	20 GRF	1008.3	1020.4	15	9	4.5		
	6100	KISV	2 S/F	1017	1020.5	7	3			
	9500	BERL	3 S	1027.5	1028	1.5	13			
	15000	KISV	21 GRF	1110	1143		9			
	8400	BERN	21	1112.7	1142.8	60	22			OPR
	10400	BERN	21	1112.7	1142.8	60	16			OPR
	6100	KISV	27 RF	1120	1133		7			
	9400	HUAN	S	1122.2E	1123.5U	5	41.3	20.5		L
	9400	HUAN	S	1138.8	1239.9	3.5	19.8	9.5		O
	9500	BERL	3 S	1142	1142.5	5	12			
	7000	SAOP	3 S	1208.3	1209	2.5	20			O
	10400	BERN	21	1237.5	1239.9	30	13			OPR
	7000	SAOP	3 S	1239	1239.8	2	11			O
	9500	BERL	3 S	1239.3	1239.7	1.7	18			
	2800	OTTA	240 R	1242.5	1244	1.5	3.4	1.7		
	10400	BERN	21	1310	1328.5	46	14			OPR
	7000	SAOP	3 S	1317	1317.5	1.2	11			11R
	7000	SAOP	45 C	1321.4	1330	14	46			28L
	9400	HUAN	S	1326.3	1329.8	7	18	7.8		L
	4995	BOUL	3 S	1326.5	1329.5	5	37	12		
	3000	BERL	20 GRF	1327.5	1331.2	14	11			
	9500	BERL	45 C	1328	1328.8	9	18			
	2800	OTTA	20 GRF	1328	1335	18	3	1.5		
	1470	BERL	1 S	1330	1330.4	.9	2.4			
	7000	SAOP	40 F	1358						
	10400	BERN	3	1418.4	1421.5	11	15			OPR
	2800	OTTA	20 GRF	1418	1422	17	2.2	1.1		
	9500	BERL	3 S	1420.5	1421.1	3	17			
	2800	OTTA	21 GRF	1438	1610	190	11.4	5		
	2800	OTTA	1 S	1451	1452.2	6	4.4	2		
	9400	HUAN	S	1557.9	1627.8	58.3	9	4.1		O
	2800	OTTA	240 R	1820	1850	30	3.8	1.8		
	245	SGMR	43 NS	1854	2032.2	186 D	150			
	2800	OTTA	240 R	2000	2010	10	3.4	1.7		
	2800	OTTA	20 GRF	2011	2023	27	3	1.6		
	4995	BOUL	3 SF	2258.5	2259.5	1.5	19	6		
	2695	PENT	22 GRF	2345	2416	95	14.8	5.8		
2	9100	GORK	23 GRF	0651	1023.8	339	21			
	260	ONDR	44 NS	0706 E		364 D	25	2		
	200	GORK	43 NS	0957		183 E		10		
	245	SGMR	44 NS	1029 E	1655.5	691 D	121			
	10400	BERN	1	0740.3	0742.8	6	8			
	15000	KISV	4 S/F	0740	0744	11	13			
	6100	KISV	46 C	1000	1021.2	40	15			
	6100	KISV		1000	1029		12			
	10400	BERN	1	1015.8	1021	39	35			
	10715	DWIN	1 S	1015	1015	3	25	10		
	15000	KISV	8 S	1020	1021	2	15			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	9100	GORK	3	S	1020.3	1021.2	3.5	36	18		
	9500	BERL	4	S/F	1020.4	1021.1	5.6	34			
	15000	KISV	20	GRF	1025	1030	10	6			
	10400	BERN	1		1057	1114.3	28	9			
	15000	KISV	21	GRF	1102	1115	23	4			
	6100	KISV	21	GRF	1102	1115	23	4			
	9100	GORK	1	S	1113.5	1114	1.5	8	4		
	234	POTS	8	S	1129.5	1129.5		350	120		
	113	POTS	4	S/F	1129.6	1129.7	.2	210	20		
	3000	BERL	3	S	1233.2	1233.9	1.8	29			
	2695	ATHN		S	1233.2	1233.9	2	27.8	7.4		
	4995	ATHN		S	1233.2	1233.7	2.4	37.7	11.3		
	2800	OTTA	3	S	1233.3	1234	4	29	7.2		
	4995	SGMR	3	S	1233.4	1233.5	.7	28.6	8.6		
	2695	SGMR	3	S	1233.4	1233.5	.7	25.8	7.7		
	3100	CRIM	3	S	1234.5	1235	5	21	7		
	2650	DWIN	1	S	1234	1234	2	25	10		
	7000	SAOP	3	S	1252.1	1253.2	6.2	13			O
	10400	BERN	1		1252.5	1253.1	5	10			
	10400	BERN	23		1302.1	1306.2	20	10			
	7000	SAOP	45	C	1304.8	1307	11.2	16			O
	10400	BERN	20		1325	1348.4	110	30			
	2800	OTTA	23	GRF	1325	1343	70	9	4.5		
	2800	OTTA	1	S	1329	1329.5	3	3.6	1.6		
	9400	HUAN		S	1340.6	1410	52.6	14.2	8.8		L
	9500	BERL	3	S	1347.5	1348.5	2.5	21			
	9400	HUAN		S	1347.6	1348.4	2.9	22	10.1		O
	7000	SAOP	3	S	1348	1348.5	5	26			O
	1470	BERL	2	S/F	1348.4	1349.1	1.1	4.1			
	10715	DWIN	1	S	1348	1348	2	20	10		
	7000	SAOP	4	S/F	1356.7	1400.8	4.8	14			O
	7000	SAOP	20	GRF	1405		9	12.5			21L
	4995	SGMR	3	S	1405.7	1407.8	5.3	20	6		
	2695	SGMR	3	S	1405.8	1408.5	5.2	23.6	7.1		
	2650	DWIN	1	S	1405	1408	6	20	10		
	3000	BERL	3	S	1405	1408.2	18	23			
	1470	BERL	20	GRF	1405	1407.8	12	4.9			
	2695	ATHN		GRF	1406	1408.3	6.3	19.2	11.6		
	4995	ATHN		GRF	1406.3	1409.8	5.2	15.5	9.3		
	9500	BERL	20	GRF	1406	1412.5	34	6.6			
	2800	OTTA	26	FAL	1440	1520	40	-4.4	-2.2		
	2800	OTTA	1	S	1622	1623.3	3	3.2	1.6		
	7000	SAOP	3	S	1626	1627.1	9	24			O
	8400	BERN	3		1626.3	1627.2	7	22			OPR
	10400	BERN	3		1626.3	1627.2	7	21			OPR
	2800	OTTA	26	FAL	1650	1705	15	-4.4	-2.2		
	2800	OTTA	20	GRF	1725	1753	90	5.4	3		
	9400	HUAN		S	1939.6	1941.6	12.4	15.6	8.9		L
	2800	OTTA	21	GRF	1945	2035	120	5.8	2.9		
	2695	PENT	2	S/F	2000	2005	10	5.2	2.4		
	4995	BOUL	20	GRF	2006	2034	64.5	29	10		
	9400	HUAN		S	2022.4	2034.2	52.9	6.2	3.6		L
	9400	HUAN		S	2027.3	2027.8	1.4	10.9	6.3		O
	2800	OTTA	1	S	2032.3	2033	1.5	3.4	1.8		
	9400	HUAN		S	2051.8	2052.3	2.7	18.7	9.2		L
	200	HIRA	44	NS	2350 E	0215	555 D	190	40		HR
3	2940	USSU	45	C	0100	0148	95	324 D			
	100	HIRA	43	NS	0106	0445	480 D	600	100		SR
	200	GORK	44	NS	0401.2E		539 E		20		
	100	GORK	44	NS	0401 E		539 E		20		
	260	ONDR	44	NS	0655 E		425 D	57	8		
	127	TORN	44	NS	0720 E	1011.8	450 D	230	63		V1
	202	IZMI	43	NS	0810		230	75			
	245	SGMR	44	NS	1027 E	1333.8	693 D	99.9			
	5730	IRKU			0107	0120.8		245			L
	5730	IRKU			0107	0113.3		70			L
	5730	IRKU	45	C	0107	0112.5	21	80			L
	2695	PENT			0107	0146	47 D	475			
	17000	NOBE	28	PRE	0108.3	0111.3	3	21			O
	500	HIRA	48	C	0109	0218.4	121	440	60		ML
	1415	SYDN			0110.9	0214.8					
	1415	SYDN	48	GB	0110.9	0212.1	123.6				
	35000	NAGO	22	GRF	0110	0212	237	86			
	17000	NOBE	4	S/F	0111.3	0120	7.5	70			L
	700	SYDN			0111.5	0227.1					
	700	SYDN			0111.5	0217.5					
	700	SYDN			0111.5	0215.5					
	700	SYDN	48	GB	0111.5	0138.9	121.3				
	2695	MANI	4	S/F	0118.1	0146	75.2	424.4	164.5		
	606	MANI	4	S/F	0118.3	0217.3	75.7	238.9	53.1		
	1415	MANI	4	S/F	0118.5	0212.3	76.5	265.5	59		
	8800	MANI	4	S/F	0118.8	0134.5	35.2	201.6	40.3		
	17000	NOBE	4	S/F	0118.8	0121.8	12.6	102			O
	5730	IRKU	45	C	0129	0134.5	32	275			L

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3	5730	IRKU			0129	0145.7		222			L
	17000	NOBE	4	S/F	0131.5	0134.5	13	134			O
	17000	NOBE	4	S/F	0144.4	0145.7	18.9	120			O
	5730	IRKU	29	PBI	0202		58	78			L
	17000	NOBE	20	GRF	0203.3	0205.4	61	78			O
	2940	USSU	3	S	0300	0307	10	61			
	5730	IRKU			0304	0308.5		30			R
	5730	IRKU	45	C	0304	0305.4	8	71			R
	17000	NOBE	7	C	0304.2	0308.7	18	220			R
	35000	NAGO	45	C	0306	0308	5	87			
	5730	IRKU	2	S	0414	0417.4	6	282			R
	2695	MANI	3	S	0414.3	0417.3	10.1	368.2	93.6		
	17000	NOBE	4	S/F	0414.9	0417.3	7.6	530			R
	1415	SYDN	3	S	0415.2	0417.7	11.5				
	8800	MANI	47	GB	0415.6	0417.2	16.2	1000.5	236.8		
	606	MANI	4	S/F	0415.7	0417.3	7.9	80	16		
	2940	USSU	3	S	0415	0418	18	265 D			
	1415	MANI	3	S	0416.1	0417.4	8.3	100	25		
	700	SYDN			0416.2	0422.9					
	700	SYDN	42	SER	0416.2	0417.5	19.8				
	200	GORK	4	SF	0416.5	0417	1.3	100 D			
	950	GORK	46	C	0416.7	0418	7.7	61			
	950	GORK			0416.7	0423.4		30			
	100	GORK	8	S	0416.8	0416.9	.5	195			
	1415	ATHN		GB	0416.8	0419	9.5	635	190.5		
	2695	ATHN		GB	0416.8	0419	9.2	799.1	239.7		
	4995	ATHN		GB	0416.8	0419.1	9.2	1203.6	351.8		
	8800	ATHN		GB	0416.8	0418.5	9.2	1205.7	361.7		
	35000	NAGO	45	C	0417	0417	17	685			
	5730	IRKU	45	C	0422.4	0423	5	24			L
	5730	IRKU			0422.4	0423.6		26			L
	17000	NOBE	29	PBI	0422.5	0425.3	28	50			O
	17000	NOBE	4	S/F	0422.5	0423	2.9	240			R
	5730	IRKU	29	PBI	0427.4		23	9			L
	950	GORK	1	S	0521	0521.7	2	5	2.5		
	6100	KISV	1	S	0620	0621.8	3	6			
	9100	GORK	1	S	0623.8	0626.8	5	7	3.5		
	3100	CRIM	28	PRE	0646	0659	13	4.5	1		
	6100	KISV	45	C	0655	0702	20	9			
	6100	KISV			0655	0708.7		5			
	4995	ATHN		GRF	0657.4	0702.2	14.2	20.6	12.4		
	2695	ATHN		GRF	0658.7	0702.2	8.8	19	11.4		
	3100	CRIM	3	S	0659	0702	5	6	2		
	2950	GORK	21	GRF	0659.1	0700.9	126	4.5	2		
	9100	GORK	22	GRF	0700.3	0702	14.2	8.5	4		
	2950	GORK	1	S	0701.2	0702.2	2.6	11	5.5		
	950	GORK	1	S	0701.4	0701.8	1	2	1		
	650	GORK	1	S	0701.5	0701.9	.9	3	1.5		
	3000	BERL	3	S	0822.5	0823.6	3.5	88			
	2695	MANI	3	S	0822.5	0823.1	1.9	64.3	21.4		
	8800	MANI	3	S	0822.6	0823	1.2	59.2	19.7		
	6100	KISV	8	S	0822	0824	3	56			
	3100	CRIM	3	S	0823	0824	4	33	11		
	8400	BERN	3		0823.1	0824	3	55			22k
	606	MANI	3	S	0823.1	0823.2	1	24	8		
	10400	BERN	3		0823.1	0824	3	30			
	5730	IRKU	2	S	0823.3	0824	3	72			R
	9100	GORK	3	S	0823.4	0824	.9	42	17		
	2950	GORK	29	PBI	0823.4	0825.4	9.1	6	3		
	2950	GORK	3	S	0823.4	0824	2.1	78	39		
	9100	GORK	29	PBI	0823.4	0824.4	14	13	3		
	1470	BERL	3	S	0823.5	0823.9	2.5	10			
	9500	BERL	3	S	0823.5	0824	2.5	30			
	950	GORK	1	S	0823.7	0823.8	.7	11			
	4995	ATHN		S/F	0823.7	0824.3	2.8	121.4	36.4		
	8800	ATHN		S	0823.8	0824.3	2.8	41.5	12.5		
	10715	DWIN	1	S	0823	0824	3	20	10		
	2650	DWIN	1	S	0823	0824	3	75	20		
	650	GORK	1	S	0824.1	0824.2	.3	7	3.5		
	200	GORK	3	S	0824.2	0824.3	.4	75			
	536	ONDR	3	S	0824.3	0824.3	.2	15			
	2695	ATHN		S/F	0824.6	0824.3	1.1	75.8	22.8		
	15000	KISV	45	C	0824 E	0824		742			
	6100	KISV	1	S	0829	0830.7	3	3			
	221	ABST	42	SER	0913.8	0954.2	60	24			
	3100	CRIM	1	S	0942	0944.5	5	7	2		
	9100	GORK	2	SF	0942.3	0943.1	4.6	11	5		
	650	GORK			0942.8	0945.7		2			
	650	GORK	40	F	0942.8	0943	3	3.5			
	3000	BERL	3	S	0943	0944.8	3.5	14			
	2695	ATHN		S	0943	0944.8	3.6	15.8	4.7		
	2950	GORK	3	S	0944.1	0945	3	13	6.5		
	4995	ATHN		S	0944.2	0944.9	3.5	11.5	3.4		
	6100	KISV	8	S	0944	0944.8	1	5			
	234	POTS	4	S/F	1011.3	1011.6	.8	160	10		

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	10715	DWIN	1	S	1103	1104	3	20	10		
	6100	KISV	2	S/F	1105	1107.5	5	3			
	29	UPIC	42	SER	1131.6	1157.1	35.1				
	33	UPIC	42	SER	1132	1157	35.3				
	9100	GORK	23	GRF	1145	1206.6	53 E	21			
	3100	CRIM	29	PBI	1147	1206		18			
	3100	CRIM	3	S	1147	1149	19	54	15		
	6100	KISV	46	C	1150	1204	75	35			
	6100	KISV			1150	1216.7		17			
	6100	KISV			1150	1158.8		21			
	6100	KISV			1150	1157.8		20			
	6100	KISV			1150	1155.5		13			
	2800	OTTA	23	GRF	1150	1206	70	21	10		
	2695	SGMR	3	S	1152.2	1159.4	20.9	175	52.5		3G,SWF
	8800	SGMR	3	S	1152.3	1203.8	16.6	25.5	7.7		3G,SWF
	2950	GORK	21	GRF	1152.8	1155.4	31	15			
	2650	OWIN	45	C	1152	1159	45	130	20		
	3000	BERL	29	PBI	1154	1158.9	45	32			
	1470	BERL	45	C	1154	1206.9	24	330			
	9400	HUAN		S	1154.5	1213.5	46.7	19.6	9.4		D
	7000	SAOP	46	C	1154.6	1204.2	28.8	48.5			14R
	9500	BERL	29	PBI	1154	1204	61	36			
	950	GORK			1155	1206.4		42			
	950	GORK	46	C	1155	1158.2	24	34			
	950	GORK			1155	1212.2		25			
	950	GORK			1155	1209.7		28			
	1415	SGMR	45	C	1155	1203.5	22.4	13.7	167		3G,SWF
	1415	SGMR	45	C	1155	1206.8		555			3G,SWF
	202	IZMI	4	S/F	1155.8	1156.3	1.7	1100	700		
	4995	SGMR	3	S	1155.9	1158.3	27	46.6	14		3G,SWF
	10400	BERN	21		1156	1204.1	65	37			
	8400	BERN	21		1156	1204.1	65	33			14R
	100	GORK			1156	1157.9		200 D			
	100	GORK	46	C	1156	1157.3	2.5	200 D			
	200	GORK	4	SF	1156	1157.1	1.7	330 D			
	2950	GORK	3	S	1156.4	1159.1	3.5	80 D			
	808	ONDR	41	F	1156.7	1158.7	12	24	5.8		
	2800	OTTA	4	S/F	1156.7	1159	6	71.2	15.4		
	606	SGMR	3	S	1156.8	1158.7	14.9	13.6	3.9		3G,SWF
	650	GORK			1157.3	1158.8		5			
	650	GORK	40	F	1157.3	1157.7	1.7	2.5			
	536	ONDR	41	F	1157.5	1157.7	8.5	7			
	9400	HUAN		S	1203.2	1204	3	27.8	14.9		R
	9100	GORK	1	S	1203.5	1204.2	3.1	28	14		
	15000	KISV	20	GRF	1203	1204.3	3	27			
	245	SGMR	6	S	1205	1208.8	7.2	25.6	7.7		3G,SWF
	410	SGMR	6	S	1205.9	1206.2	1.9	12	3.6		3G,SWF
	2800	OTTA	20	GRF	1331	1335	70	4.2	2.1		
	410	SGMR	6	S	1353	1359.2	16.5	3.4	1.6		5
	245	SGMR	6	S	1400.8	1404.3	8.2	38.2	11.5		5
	4995	BOUL	3	SF	1403.5	1405	2.5	25	8		
	1415	ATHN		S	1403.5	1405.5	4.5	7.8	2.3		
	2695	SGMR	3	S	1403.6	1405.7	4.6	47.6	14.3		5
	2695	ATHN		S	1403.8	1405.3	2.5	21.6	6.5		
	4995	ATHN		S	1404	1405.3	9.4	44.1	13.2		
	7000	SAOP	45	C	1404	1405.4	1.8	23.5			38R
	9500	BERL	42	SER	1404.5	1411.3	9	10			
	33	UPIC	45	C	1404.7	1405.3	1.1				
	113	POTS	4	S/F	1404.9	1405.4	.7	175	20		
	1470	BERL	3	S	1405	1405.5	1	7.6			
	3000	BERL	8	S	1405	1405.1	.7	24			
	8800	ATHN		S	1405.1	1405.5	7.5	15.8	4.7		
	1415	SGMR	1	S	1405.1	1405.4	1.7	5.2	1.6		5
	606	SGMR	3	S	1405.3	1405.5	.3	21.4	6.4		5
	2695	BOUL	3	S	1405.5E	1406	1 D	14	5		
	1420	BOUL	21	GRF	1405 E	1405.5	10 D	8	3		
	29	UPIC	45	C	1405	1405.6	1.3				
	2800	OTTA	26	FAL	1425	1505	40	-4.2	-2.1		
	1420	BOUL	20	GRF	1634.5E	1635.5	41 D	8	3		
	4995	BOUL	3	SF	1634.5	1635.5	3.5	46	15		
	10400	BERN	3		1634.8	1635.9	16	59			
	8400	BERN	3		1634.8	1635.9	16	89			24R
	7000	SAOP	45	C	1635	1635.8	2.6	82			27R
	9400	HUAN		S	1635.2	1635.8	4.5	65.4	25.4		R
	2800	OTTA	4	S/F	1635	1636.5	4	26	7		
	2695	BOUL	3	SF	1635 E	1637	2.50	25	8		
	9400	HUAN		S	1836.8	2014.7	160.4	31.1	17.8		D
	2800	OTTA	23	GRF	1920	2000	270	13	6.5		
	2800	OTTA	1	S	1935	1935.5	1.5	3.4	1.7		
	200	HIRA	44	NS	2340 E	0010	325 D	40	10		MR
4	200	GORK	44	NS	0356 E		532 E		20		
	202	IZMI	44	NS	0600		360	40			
	260	ONDR	44	NS	0655 E		435 D	34	2		
	221	ABST	44	NS	0700	0715.5	170	8			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	127	TORN	44	NS	0720 E	0833.3	450 D	63	3.5		V1
	245	SGHR	44	NS	1025 E	1555.6	695 D	68.5			
	5730	IRKU	2	S	0410	0410.8	7	30			R
	33	UPIC	42	SER	0704.4	0712.2	11.9				
	29	UPIC	42	SER	0704.5	0712.6	22.7				
	3000	BERL	3	S	0710	0712.4	3.7	11			
	3100	CRIM	1	S	0710	0713.5	5	11	4		
	100	GORK			0710.2	0712.6		430			
	100	GORK	46	C	0710.2	0711.8	3.9	180			
	260	ONDR	4	S/F	0710.5	0711.5	2	121	49		
	2950	GORK	3	S	0710.7	0712.5	3.2				
	234	POTS	5	S	0711	0711.6	2	260	50		
	228	HARS	45	C	0711	0711.5	2	250	75		
	113	POTS	46	C	0711.1	0712.5	2.4	125	20		
	950	GORK	1	S	0711.3	0712	2.5	1.6	1		
	200	GORK	4	SF	0711.4	0712.5	1.5	110			
	9100	GORK	20	GRF	0711.6	0900	15.5	6	3		
	1470	BERL	1	S	0712	0712.6	2	1.4			
	9500	BERL	1	S	0712	0712.5	1	4.9			
	221	ABST	45	C	0714.8	0715.5	2	44	20		
	113	POTS	8	S	0748.1	0748.2	.2	700	250		
	113	POTS	42	SER	0759.6	0802.2	2.6	500	1		
	9100	GORK	20	GRF	0957.3	0957.8	36.4	5	2.5		
	202	IZMI	5	S	1038	1038.1	.4	300	170		
	2800	OTTA	22	GRF	1155	1345	285	17	8.5		
	536	ONDR	4	S/F	1204	1204.9	2	39	7		
	33	UPIC	2	S/F	1240.1	1240.3	.6				
	29	UPIC	2	S/F	1240.6	1240.9	.8				
	8800	SGHR	3	S	1358.1	1359.2	1.3	82	25		
	2695	SGHR	3	S	1522.3	1522.9	1.2	339	102		
	2800	OTTA	1	S	1658	1659.2	4	2.8	1.4		
	2800	OTTA	20	GRF	1810	1830	40	1.8			
	2800	OTTA	21	GRF	1950	2020	80	4	2.2		
	2800	OTTA	1	S	2030.5	2032	7	4	2		
	2695	PENT	21	GRF	2230	2300	160	3.4	1.7		
	2695	PENT	22	GRF	2335	2341	17	3.4	1.7		
5	200	GORK	44	NS	0359 E		508		10		
	221	ABST	44	NS	0612.2	0724.8	90	14			
	260	ONDR	44	NS	0653 E		438 D	40	3		
	127	TORN	44	NS	0720 E	1035.4	450 D	190	14		V2
	202	IZMI	43	NS	0955		125	60			
	113	POTS	43	NS	1014 E	1152	256 D	50			
	100	GORK	43	NS	1015		132 E		40		
	410	SGHR	43	NS	1430	1457	450 D	88.5			
	100	GORK			0515.9	0519		40			
	100	GORK			0515.9	0517.5		85			
	100	GORK	41	F	0515.9	0516.2	3.2	190 D			
	650	GORK	1	S	0515.9	0516	.7	5	2.5		
	6100	KISV			0620.5	0624.5		2			
	6100	KISV	45	C	0620.5	0627	13	3			
	9100	GORK	1	S	0655.3	0655.8	1.7	5	2.5		
	8800	ATHN		GRF	0756.6	0808.5	15.3	81.8	49.1		
	950	GORK	23	GRF	0807.5	0810.8	18.5	9.5			
	3100	CRIM	3	S	0807.5	0809	5	25	8		
	1470	BERL	29	PBI	0807.7	0809.5	14	18			
	3000	BERL	29	PBI	0807.7	0809.3	14	31			
	9500	BERL	1	S	0807.7	0808.5	2.8	8.3			
	9100	GORK	1	S	0807.9	0809	3.6	8	4		
	6100	KISV	4	S/F	0807	0809	6	7			
	2650	OWIN	1	S	0807	0809	5	35	10		
	2950	GORK	3	S	0808.2	0809.7	4.6	31	15		
	2695	ATHN		S	0808.5	0809.5	15.3	27.4	10.4		
	4995	ATHN		S	0808.5	0809.5	3.4	20.1	6		
	930	BORD	45	C	0808	0811.8	5	26	3		
	808	ONDR	4	S/F	0811	0812.1	2	30	2		
	650	GORK	1	S	0812	0812.4	1	5	2.5		
	950	GORK	3	S	0812.2	0812.3	.4	18			
	6100	KISV	8	S	0830.5	0831.2	2	5			
	930	BORD	8	S	0925.3	0925.5	.2	61	2		
	9100	GORK	20	GRF	0955.4	1107	140	6	3		
	100	GORK			1145.3	1147.5		2950			
	100	GORK	46	C	1145.3	1146.1	3.6	380 D			
	2800	OTTA	20	GRF	1210	1230	60	6.4	3.2		
	2800	OTTA	8	S	1312.3	1312.5	.5	2.2	1.1		
	2800	OTTA	32	ABS	1332	1345	25 D	-8.2			
	4995	SGHR	20	GRF	1446.7	1449.1	21.3	16.6	5		
	10400	BERN	21		1456.3	1502.5	15	19			OPR
	10400	BERN	21		1456.3	1457.7	15	30			OPR
	4995	ATHN		GRF	1456.9	1459.1	15.1	20.7	12.4		
	8800	ATHN		GRF	1456.9	1459	14.8	19.7	11.8		
	4995	BOUL	45	C	1456	1502	8	13	4		
	2800	OTTA	22	GRF	1457	1459.2	13	5.6	2		
	10715	OWIN	2	SF	1457	1458	10	30	10		
	8800	SGHR	3	S	1648.4	1649.3	3.9	54.9	16.5		

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	4995	BOUL	3	SF	1719.5	1721	4.5	23	8		
	7000	SAOP	3	S	1720	1721	2	15			13R
	2800	OTTA	3	S	1720	1721	6	14.4	5.4		
	2695	BOUL	3	S	1721 E	1722	2.5D	11	4		
	410	SGMR	48	GB	1823.5	1826	3.8	792	238		SWF
	7000	SAOP	4	S/F	1824.6	1826.6	2.2	177			7R
	4995	BOUL	3	SF	1824	1826	5	155	52		
	606	SGMR	47	GB	1825.2	1826.7	5.2	800	240		SWF
	1415	SGMR	3	S	1825.2	1827.1	10.7	81	24.3		SWF
	9400	HUAN		S	1825.2	1826.6	8.4	80.3	28.5		R
	1420	BOUL	3	S	1825.5E	1827	4.5D	79	26		
	2800	OTTA	4	S/F	1825	1827	5	160	45		
	15400	SGMR	3	S	1826.1	1826.4	3.9	28.3	8.5		SWF
	245	SGMR	6	S	1826.4	1832.9	6.8	41.3	12.4		SWF
	2695	BOUL	3	SF	1826 E	1827.5	9.5D	165	55		
	2800	OTTA	29	PBI	1830	1830	16	10.8	2.8		
	2800	OTTA	240	R	1930	1950	20	6.2	3		
	2800	OTTA	20	GRF	2005	2030	100	4.4	1.5		
	2695	PENT	20	GRF	2305	2405	115	8	3.8		
	6100	KISV	29	PBI	0000	0833	7	3			
6	2695	MANI	3	S	0356.8	0357.5	1.4	26.8	8.9		
	8800	MANI	4	S/F	0356.8	0353.3	1.4	68.2	22.7		
	1415	MANI	3	S	0356.9	0357.8	2.1	15.2	5.1		
	17000	NOBE	7	C	0357	0357.4	8.3	65			C
	17000	NOBE	20	GRF	0413	0613.4	180 D	22			C
	6100	KISV	1	S	0824	0824.5	1	3			
	10400	BERN	4		0906.5	0908.2	12	35			
	8400	BERN	4		0906.5	0908.2	12	46			9R
	2950	GORK			0906.9	0909.6		9.5			
	2950	GORK	45	C	0906.9	0908	7.6	13	6.5		
	6100	KISV			0907.5	0909.5		19			
	6100	KISV	45	C	0907.5	0908.3	3	26			
	6100	KISV			0907.5	0910.5		19			
	1470	BERL	45	C	0907.5	0911.4	5.5	9.8			
	3000	BERL	45	C	0907.5	0911.2	4.5	25			
	9500	BERL	45	C	0907.7	0908.2	3.3	32			
	9100	GORK			0907.7	0909.8		30			
	9100	GORK	46	C	0907.7	0908.2	3.8	38			
	2695	ATHN		S	0907.7	0911.4	4.7	28.1	8.4		
	4995	ATHN		S	0907.9	0909.1	3.9	38.7	11.6		
	8800	ATHN		S	0907.9	0908.1	2.5	49.3	14.8		
	10715	DWIN	45	C	0907	0908	3	20	10		
	2650	DWIN	45	C	0907	0911	5	30	20		
	15000	KISV	45	C	0908	0908.3	3	20			
	15000	KISV			0908	0910		15			
	650	GORK	1	S	0911	0911.2	2.1	8	4		
	950	GORK	1	S	0911	0911.6	1.3	6.5			
	536	ONDR	2	S/F	0911	0911	2	15	6		
	29	UPIC	2	S/F	0943.2	0943.6	1.9				
	2800	OTTA	20	GRF	1350	1440	140	7.6	2.6		
	930	BORO	41	F	1436.2	1437.4	1.2	20	2		
	9400	HUAN		S	1809	1821.6	20	4.7	1.6		R
	15400	SGMR	3	S	1817.6	1818	2.4	63.8	12.8		
	7000	SAOP	45	C	1817.8	1818.5	2	93			6R
	4995	BOUL	8	S	1817	1818	1.5	47	16		
	9400	HUAN	8	S	1818	1818.3	.8	99.2	42.9		R
	2695	BOUL	3	S	1818.5E	1819	1 D	33	11		
	2800	OTTA	3	S	1818	1818.4	2	35.4	8.8		
	9400	HUAN		S	1819	1819.8	1.8	28.3	13.7		R
	2800	OTTA	29	PBI	1820	1820	40	3.4	2.4		
	2800	OTTA	1	S	2034	2034.1	1	2.6	1.2		
	2800	OTTA	1	S	2054.4	2054.7	3	4.4	1.1		
	2695	PENT	1	S	2327.9	2328	1	7	3.5		
7	6100	KISV	1	S	0646	0646.7	3	3			
	260	ONDR	42	SER	0700 E	0700	33	20			
	29	UPIC	45	C	0737.2	0738.8	2.4				
	33	UPIC	45	C	0737.3	0738	2				
	33	UPIC	45	C	0749.4	0751.1	2.6				
	29	UPIC	45	C	0749.9	0750.8	2.9				
	2800	OTTA	21	GRF	1200	1300	290	6	3		
	7000	SAOP	1	S	1553	1503.8	6.4	9			52R
	7000	SAOP	1	S	1606	1607.4		6.5			49R
	2800	OTTA	20	GRF	1606	1607.5	14	6.4	2.2		
	7000	SAOP	45	C	1648.6	1652.9	7	19			35R
	2800	OTTA	22	GRF	1700	1807	180	9.6	5		
	9400	HUAN		S	2034.6	2035	41.7	9.8	2.9		D
	2800	OTTA	32	ABS	2015	2045	60	-3.2	-1.6		
	2800	OTTA	240	R	2200	2225	25	3.4	1.7		
8	3100	CRIM	25	R	0718	1032		9			
	536	ONDR	3	S	0735.3	0735.3	.2	21			
	260	ONDR	43	NS	0736		354 D	74			
	245	SGMR	44	NS	1020 E	1507.1	700 D	190			

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	3000	BERL	20	GRF	1015.8	1018	11	4.4			
	3000	BERL			1044	1049.4		16			
	3000	BERL	42	SER	1044	1045.4	7.5	11			
	113	POTS	4	S/F	1045.5	1045.5		150	30		
	10400	BERN	3		1047.6	1049.5	5	16			
	6100	KISV	2	S/F	1048.5	1050	12	5			
	3100	CRIM	1	S	1049	1049.5	1	9	3		
	9500	BERL	3	S	1049	1049.7	2.5	14			
	1470	BERL	1	S	1049	1049.2	5	3			
	10715	DWIN	1	S	1049	1049	2	15	10		
	2650	DWIN	1	S	1049	1049	1	20	10		
	2800	OTTA	21	GRF	1200	1246	100	5.4	2.7		
	2800	OTTA	1	S	1223	1225	3	1.8	1		
	127	TORN	42	SER	1232.5	1235	8.1	130			
	127	TORN			1232.5	1237.9		85			
	1415	SGMR	45	C	1233.9	1238.3		19.1			3G
	1415	SGMR	45	C	1233.9	1234.8	8.3	22.3	6.7		3G
	113	POTS	41	F	1234.4	1236.2	4	700	5		
	1470	BERL	45	C	1234.4	1234.9	7.1	23			
	2800	OTTA	4	S/F	1234.5	1238.5	7.5	11.8	2.8		
	606	SGMR	3	S	1234.9	1238.3	3.6	12.5	3.8		3G
	2695	SGMR	3	S	1236.3	1238.6	4.1	20.4	6.1		3G
	3000	BERL	3	S	1237.7	1238.4	1.1	11			
	2650	DWIN	2	SF	1237	1238	3	15	5		
	410	SGMR	6	S	1238	1238.6	2	15.4	4.6		3G
	245	SGMR	6	S	1238	1238.4	2.3	56.2	17		3G
	3000	BERL	1	S	1407	1407.8	1.5	7.1			
	9500	BERL	1	S	1407	1407.6	1	6.7			
	1470	BERL	1	S	1407.4	1407.8	1.6	4.4			
	4995	BOUL	3	SF	1509	1513	7	28	9		
	7000	SAOP	4	S/F	1510.2	1513.4	10	47			9R
	10400	BERN	3		1510.9	1513.5	5	17			
	2800	OTTA	21	GRF	1510	1525	185	4.6	2.6		
	9400	HUAN		S	1511	1513.3	3.4	24.2	13.4		R
	4995	ATHN		S	1511.9	1513.6	12.2	38.7	11.6		
	8800	ATHN		GRF	1512.8	1513.4	1.3	11.7	7		
	2800	OTTA	1	S	1513	1513.6	1	2.2	1.1		
	9400	HUAN		PBI	1514.4	1514.4	41.8	8	5.2		D
	2800	OTTA	1	S	1518.8	1519	3	7.4	2.4		
	245	SGMR	6	S	1820.6	1821.2	2.9	24.8	9.9		
	1415	SGMR	1	S	1820.6	1821.2	2.9	5	2		
	606	SGMR	3	S	1820.6	1821.2	2.9	279	110		
	2800	OTTA	1	S	1821.9	1822.4	6	4.4	2.2		
9	9100	GORK	20	GRF	0620.6	0624	14.2	14	7		
	6100	KISV	4	S/F	0620	0624	15	13			
	6100	KISV	27	RF	0638	0644.5	42	5			
	260	ONDR	44	NS	0640 E		450 D	64			
	930	BORD	46	C	0917	0917.2	.6	65	2		
	6100	KISV	2	S/F	0947	0948.5	3	6			
	6100	KISV	27	RF	1031	1032	13	2			
	3100	CRIM	1	S	1039	1040	2	9	3		
	6100	KISV	27	RF	1051	1100	15	2			
	930	BORD	8	S	1052.9	1052.9	.1	34	1		
	1470	BERL	8	S	1141.7	1142	.6	4.8			
	7000	SAOP	40	F	1200						
	9500	BERL	1	S	1350.5	1353.4	7	4.9			
	3000	BERL	4	S/F	1351.4	1353.4	7.4	13			
	1470	BERL	1	S	1352.3	1353.5	2	2.7			
	228	HARS	45	C	1352.3	1352.8	2	230	50		
	245	SGMR	7	S	1352.4	1353.5	2.4	340	68		SWF
	410	SGMR	6	S	1352.4	1352.7	2.4	21	4		SWF
	234	POTS	4	S/F	1352.6	1353.6	1.3	130	4		
	2800	OTTA	1	S	1352	1353.5	3	4.6	2.2		
	930	BORD	41	F	1403.4	1403.4	.2	34	2		
	9400	HUAN		S	1438.5	1438.8	1.2	16.3	11.8		L
	930	BORD	41	F	1516.4	1517.2	.9	23	2		
	8400	BERN	4		1516.8	1517.6	7	11			OPR
	10400	BERN	4		1516.8	1517.6	7	11			OPR
	2800	OTTA	1	S	1517	1517.5	2	2.2	1.1		
	2800	OTTA	1	S	1544	1545	2	1.4	.7		
	2800	OTTA	1	S	2140	2141	6	1.8			
10	500	HIRA	46	C	0457.3	0459.4	5.5	15	5		D
	950	GORK	1	S	0458.8	0501.6	5.6	3.5			
	3100	CRIM	1	S	0626.5	0628	3	13	4		
	950	GORK	4	SF	0627	0628.1	3	3			
	2950	GORK	1	S	0627	0628.1	5.9	16	8		
	6100	KISV	4	S/F	0627	0628	9	5			
	221	ABST	46	C	0832.2	0835.5	4	33	19		
	127	TORN	47	GB	0833.6	0838	5.2	650			
	228	HARS	41	C	0834.5	0837	3	150	40		
	200	GORK			0834.7	0838.2		160			
	200	GORK	41	F	0834.7	0835.1	4	40 D			
	260	ONDR	46	C	0834	0837.4	5.5	34	8		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	33	UPIC 45 C		0835.5	0836.2	3.6				
	29	UPIC 45 C		0836.2	0836.3	2.7				
	2950	GORK 1 S		0837.1	0838.1	1.9	3.5	1.7		
	100	GORK 8 S		0837.7	0838.7U	1	140 D			
	1470	BERL 4 S/F		0846	0846.7	3	5.9			
	260	ONDR 3 S		0944.6	0944.6	.2	6			
	260	ONDR 3 S		1130.8	1130.8	.2	10			
	4995	BOUL 42 SER		1425	1445	20.5	117	39		
	4995	BOUL 42 SER		1509	1509.5	15	83	28		
	7000	SAOP 40 F		1551						
	4995	BOUL 42 SER		1603.5	1609.5	102.5	194	65		
	2800	OTTA 21 GRF		1710	1800	170	6	3		
	9400	HUAN S		1713.8	1738.3	52.2	23.4	9.2		R
	7000	SAOP 46 C		1717.4	1734.4	29.4	54			12R
	410	SGMR 6 S		1717.8	1724.6	8.3	113	45		3S
	606	SGMR 3 S		1718.2	1725.8	10.3	102	41		3S
	1415	SGMR 3 S		1718.2	1723.6	18.3	20.5	8		3S
	4995	SGMR 3 S		1718.2	1724.9	25.4	21	8		3S
	15400	SGMR 3 S		1718.8	1724.9	26.7	42.6	17		3S
	1420	BOUL 42 SER		1718 E	1720	17.5D	24	8		
	2800	OTTA 4 S/F		1718	1720	3.5	11	3.6		
	930	BORO 40 F		1718	1721.9	9	43	5		
	9400	HUAN S		1719	1720.3	2.5	21.8	14		R
	8800	SGMR 3 S		1719.1	1726.1	26.1	35.3	14		3S
	2695	SGMR 3 S		1719.5	1726.3	21.9	27.9	11		3S
	2695	BOUL 42 SER		1720.5E	1726.5	20 D	22	7		
	245	SGMR 6 S		1723.2	1724.6	2.8	19.2	8		3S
	9400	HUAN S		1723.6	1725.8	3.7	37.4	15.9		R
	2800	OTTA 4 S/F		1724	1725.5	3	18.4	6		
	9400	HUAN		1732.5	1734		43.6			R
	9400	HUAN C		1732.5	1733.4	5.1	42.1	24.1		R
	2800	OTTA 4 S/F		1733	1734.2	2	17.8	12.4		
	2800	OTTA 29 PBI		1735	1735	25	10.4	4		
	4995	BOUL 42 SER		1803.5	1809	7	147	49		
	9400	HUAN S		1830.8	1859.8	73.8	9.3	4.5		G
	2800	OTTA 1 S		1840	1845.5	10	4	1.8		
	9400	HUAN S		1841.8	1842	1.5	23.4	12.7		L
	4995	BOUL 8 S		1857	1859	2.5	160	53		
	2695	PENT 3 S		2248.2	2248.5	1.8	21	10.5		
	17000	NOBE 1 S		2248.3	2248.5	.5	18			R
	2695	BOUL 3 S		2249 E	2249.5	2 D	16	5		
	2695	PENT 29 PBI		2250	2250	5	5.2	2.6		
11	2695	PENT 20 GRF		0010	0045	85	4.2	2.1		
	700	SYDN 42 SER		0018.4	0119.5	3				
	3100	CRIM 1 S		0524	0524.2	1	12	4		
	3100	CRIM 1 S		0616.5	0617	1	7	2		
	15000	KISV 4 S/F		0722	0725.7	12	10			
	9100	GORK 1 S		0724.8	0725.9	3.8	9	4		
	6100	KISV 4 S/F		0724	0725.7	5	5			
	2950	GORK 1 S		0725	0726	1.7	6.2	3.1		
	9500	BERL 1 S		0725	0725.5	1.5	6.7			
	3000	BERL 3 S		0725	0725.6	1.5	8			
	1470	BERL 1 S		0725.5	0726	1	2.1			
	260	ONDR 43 NS		0750		380 D	145	9		
	3100	CRIM 20 GRF		0826	0914	105	8			
	9100	GORK 20 GRF		0837.3	0909	118	13	6		
	221	ABST 45 C		0925.2	0925.5	2	83	46		
	228	HARS 45 C		0925.3	0925.8	1.5	300	100		
	113	POTS 4 S/F		0925.7	0925.8	1.3	180	15		
	234	POTS 4 S/F		0925.7	0925.7	1.2	420	50		
	100	GORK 46 C		0925.7	0926.3	2.3	220 D			
	100	GORK		0925.7	0927		220 D			
	29	UPIC 45 C		0925.7	0926.5	1.9				
	202	IZMI 4 S/F		0925.8	0926	1.3	380	200		
	33	UPIC 45 C		0925.9	0926.5	2.3				
	2650	DWIN 45 C		1053	1253	2	15	5		
	536	ONDR 45 C		1133.8	1134.8	4	24	15		
	6100	KISV 46 C		1133	1136.5	17	8			
	3100	CRIM 3 S		1134	1135.5	4	16	5		
	650	GORK 1 S		1134	1136.3	4.2	11	3		
	3000	BERL 3 S		1134	1136	4	24			
	9500	BERL 1 S		1134	1136.5	4	8.3			
	1470	BERL 4 S/F		1134	1135.9	3.5	16			
	228	HARS 45 C		1134	1136.7	3.5	80	25		
	606	SGMR 3 S		1134	1137	4	28	11		3G
	2950	GORK 3 S		1134.1	1135.7	4	22	11		
	9100	GORK 20 GRF		1134.2	1136.4	15	9	5		
	33	UPIC 46 C		1134.2	1135.6	2.6				
	245	SGMR 6 S		1134.2	1137.1	6.8	31	9		3G
	410	SGMR 6 S		1134.3	1136.2	10.9	15	5		3G
	950	GORK 45 C		1134.3	1135.7	3.5	15			
	950	GORK		1134.3	1136.4		11.5			
	29	UPIC 46 C		1134.4	1135.9	2.6				
	808	ONDR 4 S/F		1134	1135.2	3.5	9	4		

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11	2650	OWIN	2 SF	1134	1136	4	20	10		
	930	BORC	45 C	1134	1135.8	4	19	4		
	2800	OTTA	4 S/F	1134	1135.7	5.5	19.4	6.4		
	1415	SGMR	3 S	1135.5	1137	4.5	19	8		3G
	2695	SGMR	3 S	1135.5	1137.1	2	18	5		3G
	4995	SGMR	3 S	1135.5	1137	2.4	16	5		3G
	8800	SGMR	3 S	1135.5	1137	2.5	25	7		3G
	100	GORK	45 C	1135.5	1135.8	1.2	300 D			
	100	GORK		1135.5	1136.2		300 D			
	200	GORK	8 S	1137	1137.6	1.7	45 D			
	536	ONDR	8 S	1154.3	1154.3	.2	124			
	9400	HUAN	S	1230	1239.1	26.5	10.9	5.9		R
	2800	OTTA	21 GRF	1305	1357	175	12.6	6.3		
	2800	OTTA	40 F	1312.5	1318.5	17.5	88			
	228	HARS	45 C	1322	1329	12	180	40		
	8400	BERN	46	1324.2	1329.2	80	309			15R
	10400	BERN	46	1324.2	1329.2	80	209			
	9500	BERL	4 S/F	1325	1326.2	4.5	15			
	7000	SAOP	46 C	1325	1339.4	20	454			14R
	4995	SGMR	47 GB	1325.1	1338.9	50.1	710	213		5,3G,SWF
	8800	ATHN	GRF	1325.2	1326.4	4.8	14.1	8.4		
	2695	ATHN	GRF	1325.2	1326.2	4.8	14.2	8.5		
	4995	ATHN	GRF	1325.2	1326.3	5.1	21.5	12.9		
	1470	BERL	4 S/F	1325.5	1326.1	4.5	11			
	3000	BERL	3 S	1325.5	1327.1	4	21			
	8800	SGMR	3 S	1325.5	1339.2	50.3	347	104		5,3G,SWF
	1415	SGMR	3 S	1325.5	1339	49.3	294	58		5,3G,SWF
	1420	BOUL	3 S	1325.5E	1326	1.50	8	3		
	808	ONDR	48 C	1325.5	1339	18	68	24		
	9400	HUAN	PRE	1325.6	1335.6	10	15.6	8.4		Q
	606	SGMR	3 S	1325.6	1339.1	47.6	190	57		5,3G,SWF
	1415	ATHN	GRF	1325.6	1326.3	3	8.5	5.1		
	536	ONDR	45 C	1325.7	1325.7	4	36	9		
	245	SGMR	6 S	1325.8	1339.1	15.2	200	40		5,3G,SWF
	2695	SGMR	3 S	1325.9	1339.7	48.1	370	111		5,3G,SWF
	2650	OWIN	45 C	1325	1328	5	15	10		
	930	BORD	45 C	1325	1339.2	19	391	8		
	33	UPIC	8 S	1326.2	1326.4	.8				
	29	UPIC	8 S	1326.2	1326.4	.7				
	113	POTS	49 GB	1326.2	1339.4	16	70000	700		
	234	POTS	42 SER	1326.2	1339.3	14	120	3		
	410	SGMR	7 S	1326.8	1339.1	74	346	69		5,3G,SWF
	15400	SGMR	3 S	1331	1339.2	45.5	180	54		5,3G,SWF
	2695	ATHN	C	1334.4	1339.2	11.5	299.2	89.8		
	4995	ATHN	C	1334.4	1339.3	16.9	298.9	89.7		
	8800	ATHN	C	1334.6	1339.3	16.7	355.5	106.6		
	1415	ATHN	C	1334.6	1339	11.1	262.1	78.6		
	2800	OTTA	46F C	1334	1339.3	8	234	55		
	127	TORN	48 C	1334	1339.5	7.4	4200			
	3000	BERL	29 PBI	1335	1339.4	58	275			
	9500	BERL	29 PBI	1335	1339	63	195			
	1470	BERL	29 PBI	1335	1340.5	28	148			
	9400	HUAN	C	1335.6	1339.1	10.1	280.5	84.9		R
	10715	OWIN	45 C	1335	1340	15	170	50		
	2650	OWIN	45 C	1335		10	160 D			
	2695	BCUL	45 C	1335 E	1340	7.50	362	121		
	1420	BOUL	45 C	1335 E	1338.5	8.50	214	71		
	536	ONDR	46 C	1336	1337.7	5	136	25		
	33	UPIC	3 S	1339.4	1339.5	.3				
	29	UPIC	8 S	1339.4	1339.5	.5				
	2800	OTTA	29 PBI	1342	1342	13	14.8	5.6		
	9400	HUAN	PBI	1345.7	1345.7	54.3	20.2	8.7		R
	245	SGMR	6 S	1431.2	1432	3.8	95	29		
	228	HARS	45 C	1431.3	1431.5	4	120	40		
	234	POTS	41 F	1431.6	1432.1	1.2	100	10		
	113	POTS	41 F	1432	1432.4	.4	100	15		
	228	HARS	1 S	1458.7	1459	1	300	100		
	113	POTS	4 S/F	1458.8	1459.6	1.2	5600	1400		
	234	POTS	8 S	1459.5	1459.8	.5	150	30		
	245	SGMR	43 NS	1459.5	1459.9	420.50	82			S
	7000	SAOP	40 F	1533						
	2800	OTTA	20 GRF	1610	1700	200	2.8	1.4		
	7000	SAOP	40 F	1654						
	2800	OTTA	20 GRF	1950	2025	95	2.2	1.1		
	606	SGMR	3 S	2133	2134.4	5	118	45.6		
	410	SGMR	6 S	2133.1	2141	9.9	8.2	3.3		
	1415	SGMR	3 S	2133.3	2140.4	12.3	10.6	4.2		
	2800	OTTA	21 GRF	2134	2201	105	6.8	3.4		
	245	SGMR	6 S	2135	2142.3	8	45.4	18.9		
	100	HIRA	42 SER	2136	2143	11	1300	40		WL
	4995	BOUL	3 S	2137	2143.5	9	19	6		
	2800	OTTA	4 S/F	2139	2143.5	9	22.4	9.4		
	2695	BOUL	3 SF	2140 E	2144.5	7 D	22	7		
	200	HIRA	46 C	2156	2157	2.5	100	50		Q
	2800	OTTA	3 S	2156.5	2157.5	3.5	17.4	5.8		

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	100	HIRA	46 C	2156	2157	3	1500	500		WL
	2695	BOUL	3 S	2157.5E	2158	4 D	16	5		
	2695	PENT	8 S	2301.9	2302	.4	2.4			
	2695	PENT	8 S	2306.3	2306.5	.4	1.8			
	1415	SYDN	2 S	2306.3	2306.7	.9				
	1420	BOUL	3 S	2306 E	2306.5	1 D	24	8		
	17000	NOBE	1 S	2327.8	2328	1	17			R
	2695	PENT	8 S	2328	2328.2	.3	1.8			
12	950	GORK	5 S	0418	0419.7	3.6	11.3			
	100	GORK	8 S	0418.4	0419 U	3.6	190 D			
	200	GORK	8 S	0418.5	0419.2	3	55 D			
	100	HIRA	46 C	0418.5	0420	3	20000	3000		WL
	200	HIRA	46 C	0418.5	0419	2.5	900	200		WL
	2950	GORK	3 S	0418.8	0419.7	1.2	80	10		
	260	ONDR	44 NS	0624 E		457 D	29			
	245	SGMR	44 NS	1014 E	1637.2	706 D	323			
	113	POTS	8 S	1330.4	1330.4		150	50		
	228	HARS	41 C	1514.8	1515.5	3	300	50		
	245	SGMR	47 GB	1514.9	1518		848			
	245	SGMR	47 GB	1514.9	1515.5	4.8	796	84.8		
	7000	SAOP	40 F	1538						
	2800	OTTA	240 R	1545	1555	10	2.8	1.4		
	9400	HUAN	S	1548.3	1616	54.7	6.8	3.6		C
	2800	OTTA	20 GRF	1600	1615	35	2.6	1.3		
	410	SGMR	6 S	1950.8	1951	2.4	164	50		
	606	SGMR	3 S	1950.8	1951	2.4	29	10		
13	100	HIRA	46 C	0241.5	0241.5	2.5	3500	50		WL
	200	GORK	44 NS	0400 E		195 E		5		
	260	ONDR	44 NS	0635 E		455 D	14			
	245	SGMR	43 NS	1400	1537.2	480 D	298			
	10400	BERN	3	0610.1	0612	2	12			
	8400	BERN	3	0610.1	0612	2	17			12R
	9100	GORK	1 S	0611.2	0612.5	5.2	12	6		
	6100	KISV	4 S/F	0722	0722.3	2	3			
	5730	IRKU	21 GRF	0826.5	0828.1	8	10	4.5		R
	8400	BERN	3	0827.1	0829.1	3	15			17R
	4995	ATHN	GRF	0827.1	0827.6	2.5	12.8	7.7		
	10400	BERN	3	0827.1	0829.1	3	8			
	8800	ATHN	GRF	0827.3	0827.6	2.7	7.9	4.8		
	6100	KISV	8 S	0827.5	0828	3	8			
	9100	GORK	1 S	0827.8	0828.2	1.1	11	5		
	2950	GORK	1 S	0827.8	0828.2	2.3	3.6	1.8		
	9100	GORK	20 GRF	0832.1	0905.2	42	8	4		
	33	UPIC	3 S	0848.7	0848.9	.5				
	29	UPIC	3 S	0848.9	0849.1	.4				
	3000	BERL	4 S/F	0900.6	0903.2	6.9	12			
	1470	BERL	1 S	0901	0905.3	5.4	3.4			
	3100	CRIM	1 S	0904	0905	3	5	2		
	9500	BERL	1 S	0904.1	0905.1	2.9	5.3			
	100	GORK		1031.7	1032.4		30			
	100	GORK	45 C	1031.7	1031.8	1.8	35			
	127	TORN	45 C	1031.7	1032.4	1.8	400	62		
	113	POTS	42 SER	1032.2	1050.4	19	1500	15		
	33	UPIC	4 S/F	1032.4	1032.6	1				
	29	UPIC	4 S/F	1032.5	1032.7	.9				
	221	ABST	45 C	1046.2	1048.5	4	89	42		
	6100	KISV		1046	1050.2	10	29			
	200	GORK		1048.2	1050.2		45 D			
	200	GORK	41 F	1048.2	1048.4	3.3	45 D			
	260	ONDR	46 C	1048	1050	5	219 D	50		
	7000	SAOP	45 C	1049	1050.6	3	25			15R
	228	HARS	45 C	1049.2	1050.8	2.5	350	100		
	202	IZMI	45 C	1049.3	1050.5	2	980	500		
	100	GORK		1049.4	1050.5		30 D			
	100	GORK	45 C	1049.4	1049.5	2.7	30			
	9100	GORK	22 GRF	1049.4	1050.3	9	17	8		
	127	TORN	47 GB	1049.4	1050.3	2.6	900			
	536	ONDR	4 S/F	1049.5	1050.6	3	39	5		
	650	GORK	3 S	1049.5	1050.4	5.2	18			
	3100	CRIM	1 S	1049.5	1050.5	3	7	2		
	1470	BERL	3 S	1049.5	1050.5	3	8.4			
	8400	BERN	4	1049.5	1050.3	12	22			17R
	10400	BERN	4	1049.5	1050.3	12	14			
	234	POTS	4 S/F	1049.6	1050.4	1.9	1000	85		
	950	GORK	1 S	1049.8	1050.5	3.8	10	4		
	2950	GORK	1 S	1049.9	1050.5	2	8.1	4		
	33	UPIC	4 S/F	1049.9	1050.2	1.3				
	29	UPIC	2 S/F	1050	1050.3	.6				
	9500	BERL	1 S	1050 U	1050.5	2 U	8.6			
	536	ONDR	8 S	1142.6	1142.6	.2	202			
	2800	OTTA	20 GRF	1220	1225	20	1.8	1		
	15400	SGMR	3 S	1344	1346.9	7	17.4	5.2		S,SWF
	33	UPIC	45 C	1344.6	1344.7	3.9				

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	127	TORN	45	C	1344.6	1345.7	1.2	420	110		
	2800	OTTA	3	S	1344.7	1345.6	2.5	21.2	10		
	113	BERL	42	SER	1344.7	1345.5	4.1	730	35		
	4995	SGMR	3	S	1344.8	1345.1	3.2	19.5	5.9		5,SWF
	29	UPIC	45	C	1344.8	1344.9	3.6				
	7000	SAOP	3	S	1345	1345.8	2.8	15			38R
	1415	SGMR	1	S	1345	1345.7	2.6	4.4	1.3		5,SWF
	1470	POTS	1	S	1345	1346	2.5	5.1			
	3000	POTS	3	S	1345	1345.5	2.5	26			
	2695	ATHN		GRF	1345	1345.6	3.8	22.3	13.4		
	4995	ATHN		GRF	1345	1345.7	5.3	20.3	12.1		
	410	SGMR	6	S	1345.1	1346	2.2	71.8	21.5		5,SWF
	8800	ATHN		GRF	1345.3	1347.9	6.2	9	4.8		
	606	SGMR	47	GB	1345.4	1346.5	1.8	883	265		5,SWF
	2695	SGMR	3	S	1345.4	1346.1	2.6	26.9	8		5,SWF
	245	SGMR	6	S	1345.6	1348.6	3.6	22.6	6.8		5,SWF
	8800	SGMR	1	S	1345.7	1346.2	4.9	9.9	3		5,SWF
	536	ONDR	45	C	1345	1346.3	3	31	2		
	2650	DWIN	1	S	1345	1346	2	20	10		
	7000	SAOP	41	F	1610.8						
	7000	SAOP	3	S	1610.8	1613.4	4	11			39R
	2800	OTTA	40	F	1611.5	1616.5	6	15			
	606	SGMR	3	S	1611.6	1611.7	.2	16.2	4.9		5
	33	UPIC	8	S	1611.7	1611.7	.8				
	29	UPIC	8	S	1611.8	1612	.6				
	410	SGMR	48	GB	1612.8	1616.8	8.6	1560	468		5
	245	SGMR	48	GB	1612.8	1616.8	8.4	1416	428		5
	930	BORD	41	F	1612	1613.2	6	33	4		
	228	HARS	45	C	1613.5	1613.8	1.5	150	40		
	8400	BERN	4		1616.2	1616.6	2	26			18R
	10400	BERN	4		1616.2	1616.6	2	15			
	1415	SGMR	3	S	1616.3	1617	1.6	42.6	12.8		5
	228	HARS	1	S	1616.5	1616.8	1	400	150		
	7000	SAOP	3	S	1616.6	1616.8	2.4	22			31R
	2800	OTTA	21	GRF	1625	1630	45	5.8	2		
	2800	OTTA	1	S	1638.5	1638.6	1.5	4	2		
	2800	OTTA	20	GRF	2000	2045	90	2.4	1.7		
	2800	OTTA	20	GRF	2145	2154	75	4	2		
	2695	PENT	21	GRF	2335	2348	65	10	5		
	4995	BOUL	45	C	2338	2341.5	6	30	27		
	606	MANI	4	S/F	2339.4	2343.7	5.6	255.1	20		
	17000	NOBE	20	GRF	2339.5	2343	20	66			R
	500	HIRA	42	SER	2340	2340.1	4.5	330			ML
	2695	PENT	40	F	2340	2343	23	41			
	1420	BOUL	45	C	2341 E	2342.5	4.5D	25	8		
	1415	MANI	4	S/F	2342	2343.3	2.8	72.2	24.1		
	2695	MANI	4	S/F	2342.3	2343.3	2.4	21.5	7.2		
	2695	BOUL	45	C	2342.5E	2343	1 D	36	12		
	4995	BOUL	30	PBI	2344	2348.5	7	32	11		
14	221	ABST	43	NS	0614	0624.8	45	11			
	260	ONDR	44	NS	0647 E		444 D	31			
	410	SGMR	44	NS	1008 E	1950.6	712 D	295			3
	245	SGMR	44	NS	1008 E	1950.2	712 D	180			3
	8800	ATHN		GRF	0716.1	0719.5	2.3	34.2	20.5		
	6100	KISV	27	RF	0825	0847	35	2			
	536	ONDR	2	S/F	0951.5	0952.5	1.5	10	1		
	3100	CRIM	3	S	1017	1022	11	18	6		
	6100	KISV	45	C	1017	1025	23	6			
	6100	KISV			1017	1037		2			
	6100	KISV			1017	1019.5		3			
	10400	BERN	10		1020.9	1023.1	9	9			
	8400	BERN	20		1020.9	1023.1	9	16			
	1470	BERL	4	S/F	1021	1024.2	5	10			
	9100	GORK	20	GRF	1021.4	1022.8	30 E	7			
	2650	DWIN	45	C	1021	1022	2	20	10		
	3000	BERL	3	S	1021	1022.5	2	17			
	9500	BERL	20	GRF	1021	1025	9	9			
	33	UPIC	45	C	1042.1	1042.9	3.6				
	29	UPIC	45	C	1042	1042.5	3.4				
	8800	ATHN		GRF	1105.3	1106.9	6.2	39.4	23.7		
	4995	ATHN		GRF	1105.3	1106.9	4.3	18.9	11.3		
	8400	BERN	3		1105.3	1106.8	4	37			20R
	10400	BERN	3		1105.3	1106.8	4	31			
	9500	BERL	3	S	1105.5	1106.8	2.5	25			
	1470	BERL	1	S	1105.5	1107	2.5	5.4			
	3000	BERL	3	S	1105.5	1107.2	2.5	7			
	3100	CRIM	1	S	1105.5	1107	3	6	2		
	2695	ATHN		GRF	1105.6	1106.9	2.3	5.9	3.5		
	1415	ATHN		GRF	1105.7	1106.4	2.1	4.2	2.5		
	536	ONDR	2	S/F	1105.7	1106.8	3	18	2		
	10715	DWIN	1	S	1105	1106	3	25	10		
	6100	KISV	8	S	1106.8D	1106.8	3	15			
	1470	BERL	8	S	1220	1220.6	1	33			
	7000	SAOP	4	S/F	1429.4	1441.8	.9	511			10R

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	4995	BOUL	8 S	1439.5	1441	5.5	270	90		
	410	SGMR	49 GB	1440	1441.8	12	1130	226		2,4,SWF
	245	SGMR	49 GB	1440	1441.8	9	2080			2,4,SWF
	228	HARS	47 GB	1440	1441.5	5	1000	300		
	606	SGMR	3 S	1440.5	1442.1	12.6	228	46		2,4,SWF
	127	TORN	49 GB	1440.5	1441.7	14	5700 U			SUNSET
	1415	SGMR	3 S	1440.8	1442	13.1	152	30		2,4,SWF
	4995	SGMR	3 S	1440.8	1441.4	9	403	81		2,4,SWF
	2800	OTTA	4 S/F	1440.8	1442	9	170	22		
	8400	BERN	4	1440.9	1441.7	9	484			9R
	8800	SGMR	47 GB	1440.9	1441.8	7.7	722	144		2,4,SWF
	10400	BERN	4	1440.9	1441.7	9	461			
	930	BORO	3 S	1440	1443.3	25	147	20		
	2650	DWIN	4 S/F	1440	1442	10	160	50		
	10715	DWIN	4 S/F	1440	1442	5	260 D			
	2695	SGMR	3 S	1441	1442.4	9.2	141	28		2,4,SWF
	8800	ATHN	GB	1441	1441.7	2.7	529.9	159		
	15400	SGMR	47 GB	1441.3	1441.2	6.5	662	132		2,4,SWF
	29	UPIC	46 C	1441.5	1441.9	4.7				
	4995	ATHN	GB	1441.6	1441.6	7.6	369.6	110.9		
	2695	ATHN	S/F	1441.8	1441.8	12	176.4	52.9		
	1415	ATHN	S/F	1441.9	1441.9	14.7	169.6	50.9		
	1420	BOUL	3 SF	1441 E	1442	10 D	153	51		
	33	UPIC	46 C	1441	1441.9	6.1				
	2695	BOUL	3 SF	1442 E	1443	3.50	175	58		
	2800	OTTA	20 GRF	1740	1842	32	2.2	1.1		
	2800	OTTA	1 S	1950	1950.2	1	3			
15	3100	CRIM	24 R	0632	0648		11			
	6100	KISV	27 RF	0635	0645.5	25	6			
	29	UPIC	42 SER	0655.6	0655.6	48.5				
	33	UPIC	42 SER	0655.6	0722.3	48.9				
	260	ONDR	44 NS	0729 E		394 D	175	15		
	245	SGMR	44 NS	1200 E	1317.3	600 D	475			
	200	HIRA	44 NS	2005 E	2225	410 D	10	5		SR
	3100	CRIM	3 S	0736	0738	15	16	5		
	9500	BERL	20 GRF	0737.2	0738.4	22	7.5			
	1470	BERL	1 S	0737.2	0739.8		4.7			
	3000	BERL	4 S/F	0737.2	0738.3		13			
	2950	GORK	20 GRF	0737.3	0738.6	16	11	5.5		
	8400	BERN	3	0737.9	0738.5	3	17			0
	10400	BERN	3	0737.9	0738.5	3	7			
	9100	GORK	1 S	0738.3	0738.8	2.1	14	7		
	2650	DWIN	2 S/F	0738	0738	12	20	5		
	3100	CRIM	1 S	0840.5	0842	3	6	2		
	2950	GORK	1 S	0841.5	0842.5	3.4	11	5.5		
	234	POTS	42 SER	1024.8	1035.1	12	350	1 E		
	8400	BERN	40	1033.4	1036	8	14			5R
	10400	BERN	40	1033.4	1036	8	10			
	228	HARS	41 C	1034.5	1035	2	325	90		
	202	IZMI	41 F	1034.7	1036.5	2.3	500			
	127	TORN	45 C	1034.8	1036.6	3	180	16		
	113	POTS	41 F	1035.3	1036.3	1.4	80	10		
	3000	BERL	8 S	1035.7	1036	.8	14			
	9500	BERL	8 S	1035.7	1036	.8	7.5			
	2800	OTTA	240 R	1215	1245	30	6	3		
	228	HARS	1 S	1317	1317.2	.7	300	100		
	234	POTS	8 S	1317.1	1317.2	.6	260	85		
	2800	OTTA	1 S	1327	1328.5	3	1.8	.9		
	2800	OTTA	1 S	1519.5	1521.8	10	4.6	1.6		
	2800	OTTA	1A S	1924	1925.5	2.2	2.6	1.3		
	2800	OTTA	8 S	1925.3	1925.3	.1	33			
	15400	SGMR	3 S	2007	2007.6	9.5	34.2	10.3		2,5,SWF
	606	SGMR	3 S	2007.2	2008.6	8.8	130	39		2,5,SWF
	1415	SGMR	3 S	2007.2	2008.2	7.8	57.3	17.2		2,5,SWF
	4995	BOUL	8 S	2007.5	2008.5	2	90	30		
	245	SGMR	48 GB	2007.8	2008.5	6.2	5470	1640		2,5,SWF
	2695	SGMR	3 S	2008	2008.2	7	144	43.2		2,5,SWF
	9400	HUAN	S	2008.1	2008.7	2.3	69.5	30.5		R
	4995	SGMR	3 S	2008.2	2008.5	6.8	213	63.9		2,5,SWF
	100	HIRA	48 C	2008.3	2009	15	10000 U	500 U		WL
	8800	SGMR	3 S	2008.4	2008.7	6.6	63.7	19.1		2,5,SWF
	410	SGMR	6 S	2008.4	2008.6	5.6	250	75		2,5,SWF
	1420	BOUL	3 S	2008 E	2009	4.50	46	15		
	2695	PENT	4 S/F	2008	2009.2	8	116	15		
	200	HIRA	46 C	2008	2008.2	2	12000 U	3000 U		WL
	2695	BOUL	42 SER	2009 E	2010	5.50	103	34		
	9400	HUAN	PBI	2010.4	2010.4	22.2	11	5.5		0
	2800	OTTA	21 GRF	2035	2220	290 D	21.6			
	2695	PENT	20 GRF	2237	2250	105	7.4	4		
16	5730	IRKU	20 GRF	0220	0223.9	9	9			R
	5730	IRKU	1 S	0300	0300.7	2	8			R
	5730	IRKU	23 GRF	0442	0443	7	5	4		R
	5730	IRKU		0442	0444.6		10			R

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				UT	UT	MINUTES	PEAK	MEAN		
16	5730	IRKU		0442	0443.6		7			R
	5730	IRKU		0442	0445.4		10			R
	9100	GORK		0443	0446		26			
	9100	GORK	46 C	0443	0445.2	5.4	28			
	650	GORK	1 S	0443.8	0446	2.3	2			
	950	GORK	1 S	0445	0445.5	1.5	1			
	6100	KISV		0508	0512.7		12			
	6100	KISV		0508	0511		11			
	6100	KISV	21 GRF	0508	0513.2	17	153			
	5730	IRKU	45 C	0509	0511	14	7			L
	5730	IRKU		0509	0513.2		125			L
	9100	GORK	4 SF	0509	0513.7U	14.5	480			
	4995	ATHN	S/F	0509.8	0513.4	13.7	153.4	46		
	8400	BERN	8	0510	0513.2	8	445 D			OPR
	10400	BERN	8	0510	0513.2	8	370			OPR
	8800	ATHN	GB	0510.5	0513.3	10.8	759.5	227.9		
	17000	NOBE	4 S/F	0510.5	0513.1	3.6	69			R
	17000	NOBE	29 P8I	0510.5	0514.2	9	22			D
	950	GORK		0511.2	0525.5		8			
	950	GORK	4	0511.2	0513.7	23.5	9 D			
	650	GORK	4 SF	0511.2	0513.9	5.3	74			
	950	GORK		0511.2	0527.8		8 D			
	606	MANI	47 GB	0512.2	0513.4	4.6	500 D	20		PIKE
	500	HIRA	46 C	0512.3	0513	3	1600	200		HL
	2695	ATHN	S/F	0512.5	0513.3	4.2	87.1	26.1		
	1415	ATHN	S/F	0512.8	0513.4	.3	50.9	15.3		
	8800	MANI	4 S/F	0513.2	0513.5	1.4	177.3	59.1		
	2695	MANI	4 S/F	0513.3	0513.5	1.3	40.8	13.6		
	1415	MANI	4 S/F	0513.3	0513.6	2.4	41.5	13.8		
	2950	GORK	3 S	0513.4	0513.8	3.5	87	35		
	35000	NAGO	5 S	0513	0513	1	117			
	260	ONDR	44 NS	0620 E		480 D	209	10		
	245	SGMR	44 NS	1006 E	1926.8	714 D	178			
	650	GORK	4 SF	0653	0655.4	3.2	16	3		
	536	ONDR	8 S	0707.5	0707.5	.3	35			
	127	TORN	41 F	0740 U	0748	20 U	82			
	113	POTS	41 F	0745	0752.2	7.8	100	5		
	950	GORK	3 S	0817	0819.5	3.2	8.4			
	930	BORO	41 F	0818.6	0818.8	1.1	30	4		
	8800	ATHN	S	1127.8	1135.2	12.7	88.6	26.6		
	7000	SAOP	46 C	1130	1135.2	30.6	71			9R
	10400	BERN	4	1131.2	1136.2	15	75			OPR
	536	ONDR	42 SER	1131	1159	34	156	9		
	6100	KISV	21 GRF	1131	1135	11	40			
	6100	KISV		1131	1137.5		23			
	6100	KISV		1131	1134.5		11			
	6100	KISV		1131	1133		5			
	4995	ATHN	S	1132.1	1135.5	7.7	21	6.3		
	10715	DWIN	45 C	1132	1135	9	60	20		
	650	GORK	2 SF	1133	1133.3	4.8	4			
	9100	GORK	4 SF	1133.4	1135.8	7.1	75	17		
	9400	HUAN	C	1133.7	1135.2	2.9	69	29.1		
	9400	HUAN		1133.7	1137.7		24			
	3000	BERL	4 S/F	1134	1135.4	4	16			
	9500	BERL	4 S/F	1134	1135	7	70			
	15400	SGMR	3 S	1134	1135.2	4	46.2	18.5		
	2695	SGMR	3 S	1134	1135.2	5.5	12.8	5.1		
	4995	SGMR	3 S	1134	1135.2	5.5	25.7	10.3		
	8800	SGMR	3 S	1134	1135.2	5.5	73.5	29.4		
	410	SGMR	6 S	1134.1	1135.1	4.1	84.4	33.4		
	245	SGMR	6 S	1134.5	1135.1	1.3	205	82		
	1470	BERL	4 S/F	1134.5	1135.5	4.5	9			
	2695	ATHN	S	1134.6	1135.5	1.9	5.6	1.7		
	606	SGMR	3 S	1134.7	1135.5	3.3	10.5	4.2		
	1415	SGMR	3 S	1134.7	1135.5	3.8	10.3	4.1		
	234	BERL	4 S/F	1134.8	1134.9	.4	280	10		
	2950	GORK	45 C	1134.9	1136.1	7.2	12			
	2950	GORK		1134.9	1138.2		9			
	2800	OTTA	45 C	1134	1135.3	6	7.8	2.2		
	1415	ATHN	S	1135	1135.4	.6	4.5	1.3		
	3100	CRIM	42 SER	1136	1136.5	4	12	4		
	3100	CRIM		1136	1138.5		11	4		
	9400	HUAN	P3I	1138.8	1138.8	30.8	16.5	7.7		
	202	IZMI	41 F	1151	1156.6	7	800			
	234	POTS	42 SER	1151	1156.6	6.3	2600	1 E		
	113	POTS	42 SER	1152	1156.7	5.3	700	1 E		
	245	SGMR	48 GB	1155	1156.8	5.3	1160	348		
	606	SGMR	3 S	1155	1159.4	8.8	200	60		
	410	SGMR	7 S	1155.1	1155.2	5.5	253	76		
	9100	GORK	22 GRF	1155.2	1157.3	11.3	8	4		
	6100	KISV	4 S/F	1155	1157.5	10	7			
	2800	OTTA	40 F	1155	1157.9	8	4.2			
	1470	BERL	40 F	1156.2	1157.9	6.8	11			
	3000	BERL	3 S	1156	1157.9	3	6.7			
	9500	BERL	40 F	1156	1157.8	7	13			

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					UT	UT	MINUTES	PEAK	MEAN		
	1415	SGMR	1	S	1157	1157	3.6	8	2		
	650	GORK	4	SF	1159.2	1200 U	2.2	30			
	33	UPIC	3	S	1228.7	1228.9	.4				
	29	UPIC	3	S	1228.7	1228.9	.6				
	228	HARS	45	C	1608.2	1608.4	1	450	100		
	15400	SGMR	3	S	1647.5	1650.2	8.5	34.7	13.8		3G,SWF
	1415	SGMR	3	S	1647.7	1649.5	8.3	71.3	28.5		3G,SWF
	10400	BERN	3		1648.2	1650.5	4 D	64			OPR
	1420	BOUL	45	C	1648.5E	1650	3 D	76	25		
	7000	SAOP	4	S/F	1648.6	1650.2	4.8	120			7R
	930	BORO	41	F	1648	1648.7	5	18	4		
	4995	BOUL	8	S	1648	1650	3	82	27		
	228	HARS	45	C	1649.3	1649.8	2	600	200		
	606	SGMR	3	S	1649.5	1653.6	6.5	156	62.4		3G,SWF
	245	SGMR	48	GB	1649.5	1649.8	6.5	738	295		3G,SWF
	410	SGMR	6	S	1649.5	1649.8	6.5	198	79.2		3G,SWF
	2800	OTTA	4	S/F	1649	1650.2	8	30	6.2		
	2695	BOUL	3	S	1650.5E	1651.5	2 D	22	7		
	4995	BOUL	8	S	1724.5	1725	1	54	18		
	4995	BOUL	8	S	1729	1729.5	1	92	31		
	9400	HUAN		S	2023.1	2032.1	25.4	15.7	5.5		R
	410	SGMR	6	S	2027	2030.9	7	38.8	11.6		
	1420	BOUL	45	C	2029.5E	2031	3.5D	39	13		
	2800	OTTA	2	S/F	2029.5	2033	5	4.2	2.1		
	1415	SGMR	3	S	2029.8	2030.1	3.4	47.8	14.3		
	245	SGMR	48	GB	2144.1	2145	2.9	3930	1570		SWF
	410	SGMR	48	GB	2144.1	2145	2.9	595	238		SWF
	606	SGMR	3	S	2144.5	2145	3.5	11.3	1.1		SWF
	4995	BOUL	3	SF	2144	2146	4.5	41	14		
	100	HIRA	46	C	2145	2146.5	2	4000	500		WL
	9400	HUAN		S	2145.3	2146.1	4	169.9	33.8		R
	17000	NOBE	4	S/F	2145.7	2146.2	3	184			R
	500	HIRA	46	C	2145.8	2146.6	2	30	17		SL
	1415	SGMR	3	S	2145.8	2146	2.2	10	1		SWF
	15400	SGMR	3	S	2145.8	2147	2.2	190.2	76.1		SWF
	1420	BOUL	3	S	2145 E	2146	2.5D	8	3		
	2800	OTTA	4	S/F	2145	2145.2	4	17.8	4.4		
	2695	BOUL	3	S	2146 E	2146.5	2.5D	11	4		
	4995	BOUL	45	C	2343	2346	3.5	41	14		
	200	HIRA	46	C	2344	2345.5	4	4000	500		
	500	HIRA	46	C	2344	2345.3	3	330	50		MLMR
	100	HIRA	46	C	2345	2346	6	15000	3000		WL
	1420	BOUL	3	S	2345 E	2346	3.5D	21	7		
	2695	PENT	45	C	2345	2346.5	2	36.6	14.2		
	17000	NOBE	4	S/F	2346	2346.3	.8	60			R
	2695	BOUL	45	C	2356 E	2357	2 D	41	14		
17	700	SYDN	40	F	0025	0037.2	20.2				
	260	ONDR	44	NS	0610 E		477 D	24			
	410	SGMR	44	NS	1005 E	1635.9	715 D	29.8			3
	245	SGMR	44	NS	1005 E	1635.9	715 D	261			3
	7000	SAOP	40	F	1422						
	2800	OTTA	1	S	1439	1439.7	1	5.8	2.8		
	228	HARS	48	C	1635.1	1636.5	5.4	280	10		
	2800	OTTA	1	S	1719.5	1920	3	4.4	1.4		
	2695	BOUL	45	C	1738.5E	1741	2.5D	52	17		
	2695	BOUL	42	SER	1745 E	1746	1.5D	109	36		
	2800	OTTA	20	GRF	1828	1835	20	3.2	1.1		
	2800	OTTA	21	GRF	2000	2117	180	11.4	4.8		
	2695	BOUL	20	GRF	2104.5E	2111	69 D	22	7		
	2800	OTTA	4	S/F	2108	2110	8	14.6	7		
	2695	PENT	32	ABS	2305	2410	100	-5.4	-2.7		
18	260	ONDR	44	NS	0620 E		476 D	20			
	410	SGMR	44	NS	1003 E	2011.7	717 D	27.4			
	245	SGMR	44	NS	1003 E	1838.2	717 D	209			
	2650	DWIN	41	F	0845	0845	5	45	10		
	2650	DWIN	45	C	0928	0937	12	55	10		
	9400	HUAN		S	1155.5	1204	26.8	9.7	3.7		R
	9400	HUAN		S	1344.6	1345.3	2.5	24.3	8.6		L
	8800	SGMR	3	S	1431.3	1431.8	1.3	30.5	9.2		
	2800	OTTA	21	GRF	1830	1855	90	2.8	1.4		
	606	SGMR	3	S	1844.5	1845.9	2.8	38.6	19		5
	1415	SGMR	3	S	1844.5	1845.9	3	13.3	53		5
	4995	BOUL	3	SF	1844.5	1845.5	2	28	9		
	4995	SGMR	3	S	1845	1845.8	3.5	20.4	8.2		5
	410	SGMR	6	S	1845	1846.1	3.5	14	5.6		5
	2800	OTTA	4	S/F	1845.2	1846.5	2	37.6	12.5		
	245	SGMR	48	GB	1845.5	1846.4	2	886	335		5
	2695	SGMR	3	S	1845.5	1846.9	2.3	33.1	13		5
	1420	BOUL	3	SF	1845 E	1846	2 D	151	50		
	2695	BOUL	3	SF	1846 E	1847	1.5D	26	9		
19	2695	PENT	4	S/F	0029	0030	1	10.8	4		
	9400	HUAN		S	1229.7	1230.3	1.6	15.9	9.8		L

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					UT	UT	MINUTES	PEAK	MEAN		
	9400	HUAN		S	2102.8	2103.6	1.4	14.3	8.4		L
	2695	PENT	20	GRF	2210	2404	125	6.2	3.1		
20	2695	PENT	20	GRF	0020	0025	16	3.4	1.7		
	9400	HUAN	8	S	1133.7	1134	.7	24.5	13.1		L
	2800	OTTA	20	GRF	1140	1200	60	3.8	1.9		
	9400	HUAN		S	1746	1746.3	1.3	29.4	17.6		L
21	29	UPIC	45	C	0946.7	0947.2	2.2				
	33	UPIC	4	S/F	0947	0947.3	.8				
	260	ONDR	43	NS	1033		249 D	20			
	245	SGMR	43	NS	1200	1424	600 D	51			3,SWF
	127	TORN	40	F	1430.4	1436	9 U	30			
	2800	OTTA	1	S	1521	1522.5	3	2.4			
22	200	GORK	43	NS	0426		397 E		5		
	127	TORN	43	NS	0940 U	1007.2	175 U	65	2.5		V1
	410	SGMR	44	NS	0956 E	1039.2	724 D	17			
	245	SGMR	44	NS	0956 E	1712.1	724 D	61			
	260	ONDR	44	NS	1010 E		290 D	155	8		
	200	GORK	4	SF	0527.4	0527.8	1.8	45 D			
	650	GORK			0527.4	0531.1		24			
	650	GORK	46	C	0527.4	0528.5	4.8	9			
	2950	GORK	20	GRF	0527.6	0530	27.3	4.6	2.3		
	606	MANI	4	S/F	0528.7	0531.7	4.3	43.2	14.4		
	1415	MANI	1	S	0528.7	0531.7	4.1	7.8	2.6		
	950	GORK	3	S	0530.7	0531.2	2.2	9.5	4.5		
	650	GORK	1	S	0543.6	0543.9	1.2	4			
	200	GORK	4	SF	0607.7	0608.1	1.2	45			
	100	GORK	8	S	0738.8	0738.9	.6	145 D			
	3100	CRIM	1	S	0739	0742	11	4	1		
	9100	GORK	20	GRF	0740.9	0742.6	26	6			
	2950	GORK	20	GRF	0742	0742.7	8	3.5	2		
	100	GORK	41	F	0952.2	0954	9.7	110			
	100	GORK			0952.2	0957.5		130			
	100	GORK	46	C	1004.1	1004.2	8	145			
	100	GORK			1004.1	1006.2		1140			
	100	GORK			1004.1	1005		145 D			
	930	BORD	41	F	1119.8	1120.4	1.6	57	2		
	1470	BERL	3	S	1205.9	1209.5	4.5	5.8			
	2800	OTTA	1	S	1206	1208	6	3	1.6		
	29	UPIC	4	S/F	1208.2	1208.6	.9				
	33	UPIC	4	S/F	1208	1208.1	.9				
	2800	OTTA	20	GRF	1450	1510	45	2.2	1.1		
	2800	OTTA	20	GRF	1540	1610	130	2	1.6		
	930	BORD	8	S	1543.2	1543.2	.2	15	2		
	2800	OTTA	20	GRF	1935	2035	105	4.2	2.6		
	4995	BOUL	3	SF	2140	2141	2	16	5		
	2800	OTTA	1	S	2141	2141.5	1	5.2	2.6		
	2695	PENT	240	R	2205	2410	125	14.2	7.1		
23	200	HIRA	27	RF	0140	0157	30	20	10		HR
	100	HIRA	27	RF	0140	0158	23	90	40		SR
	5730	IRKU	1	S	0310	0310.2	2	4	1.5		L
	5730	IRKU			0317	0325.1		23			L
	5730	IRKU			0317	0324.6		24	6		L
	5730	IRKU	45	C	0317	0323.9	14	19			L
	200	GORK	44	NS	0355.5E		545 E		5		
	260	ONDR	44	NS	0716 E		405 D	27			
	410	SGMR	44	NS	0955 E	1347.1	725 D	23.5			3G
	245	SGMR	44	NS	0955 E	1522.9	725 D	103.2			3G
	202	IZMI	41	F	0602.2	0602.6	.8	216			
	5730	IRKU			0731	0734.8		349			L
	5730	IRKU			0731	0733.3		340			L
	5730	IRKU	45	C	0731	0732.8	21	246			L
	536	ONDR	8	S	0959.5	0959.5	.2	58			
	33	UPIC	42	SER	1240.2	1240.2	6.3				
	29	UPIC	42	SER	1240.2	1240.4	8				
	9400	HUAN		S	1320.5	1400.5	63.1	3.1	2		L
	2800	OTTA	1	S	1357	1358.5	5	6	2		
	2800	OTTA	20	GRF	1440	1540	130	3.4	1.7		
	930	BORD	8	S	1751.6	1751.6	.2	51	2		
	9400	HUAN		S	2146.7	2147.9	3.1	26.8	13.6		L
24	200	HIRA	44	NS	0005 E	0100	95 D	20	10		D
	200	GORK	43	NS	0402		478 E		25		
	221	ABST	44	NS	0500	1057	420	28			
	202	IZMI	44	NS	0600		360	65			
	260	ONDR	44	NS	0600 E		495 D	84	15		
	127	TORN	44	NS	0740 E	0821.8	430 D	83	9		V1
	410	SGMR	44	NS	0953 E	1257.5	727 D	39			SWF
	245	SGMR	44	NS	0953 E	1225.8	727 D	67.1			SWF
	200	HIRA	44	NS	1955 E	0410	810 D	120	25		ML
	950	GORK	1	S	0533.5	0533.9	2.4	5.5	3		
	650	GORK	3	S	0533.6	0533.8	.3	10	5		

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					UT	UT	MINUTES	PEAK	MEAN		
	113	POTS	27	RF	0735	0916	185	28	7		
	3100	CRIM	1	S	0845	0845.5	1	2	1		
	536	ONDR	20	GRF	1220	1310	115 D	22	10		
	234	POTS	4	S/F	1225.1	1225.8	1.3	330	30		
	410	SGMR	6	S	1723.4	1727.3	4.8	11.4	3.4		
	245	SGMR	48	GB	1726	1727.4	2.7	957	287		
	228	HARS	45	C	1726	1726.2	1	1150	300		
	2800	OTTA	2	S/F	1727	1727.5	7	4.8	2.6		
	606	SGMR	20	GB	1732.9	1752.2	25.1	2.6	1.6		
	1415	SGMR	1	S	1746.4	1750.7	7.1	9.9	4		
	9400	HUAN		S	2155.7	2157.8	2.5	12.9	6.7		L
25	100	HIRA	43	NS	0240	0400	405 D	100	20		SL
	200	GORK	44	NS	0341 E		559 E		20		
	100	GORK	44	NS	0353		367		5		
	202	IZMI	44	NS	0600		360	100			
	221	ABST	44	NS	0602	0927.2	325	48			
	260	ONDR	44	NS	0638 E		450 D	168	20		
	127	TORN	44	NS	0700 E	0813.5	370 U	150	2.5		V1
	410	SGMR	44	NS	0952 E	2016.5	728 D	95.1			
	245	SGMR	44	NS	0952 E	1150.5	728 D	437			
	200	HIRA	44	NS	1955 E	0525	810 D	60	10		ML
	100	HIRA	43	NS	2150	2220	290	40	15		ML
	200	GORK	27	RF	0351	0411.9	59.3	150 D			
	650	GORK	22	GRF	0629	0715	46	9.5	3		
	234	POTS	8	S	0639.1	0639.2	.2	500	150		
	100	GORK	8	S	0646.7	0647	1.1	160 D			
	113	POTS	4	S/F	0646.9	0647	.7	1200	70		
	8400	BERN	20		0650	0656	30	15			15R
	10400	BERN	20		0650	0656	30	8			
	9500	BERL	20		0652	0654.8	18		9.2		
	950	GORK	22	GRF	0652	0712	90	6.5			
	3100	CRIM	1	S	0652	0652.5	6.5	4	1		
	113	POTS	8	S	0712.9	0712.9	.1	120	40		
	202	IZMI	4	S/F	0714.7	0715	3.3	500	250		
	234	POTS	5	S	0807.6	0807.8	.4	500	125		
	536	ONDR	8	S	0913.6	0913.6	.2	52			
	2800	OTTA	20	GRF	1150	1154	20	3	1.5		
	9400	HUAN		S	1323.6	1332.7	25.6	6.4	2.2		Q
	9400	HUAN		S	1400.6	1429.7	41.6	4.8	1.6		Q
	2800	OTTA	240	FR	1630	1700	30	3.2			
	2800	OTTA	8	S	1801.7	1801.9	.3	33			
	2800	OTTA	21	GRF	2125	2145	65	12.8	6.4		
	4995	BOUL	45	C	2127	2137	59	72	24		
	2800	OTTA	8	S	2130.5	2130.6	.5	13.2	6.6		
	2800	OTTA	1A	S	2130	2131	4	3.6	2		
	2695	BOUL	22	SER	2131 E	2151.5	42 D	52	17		
	606	SGMR	3	S	2134.3	2140	11.8	338	101		3G
	410	SGMR	7	S	2135.5	2140.5	6.2	398	120		3G
	1415	SGMR	3	S	2135.5	2138	27.5	18.2	5.5		3G
	100	HIRA	46	C	2135	2138	7	600	150		WL
	245	SGMR	49	GB	2136.5	2137	11.5	1200	480		3G
	1420	BOUL	45	C	2137 E	2138	4 D	20	7		
	2800	OTTA	4	S/F	2137	2137.8	4.5	24.2	11		
	500	HIRA	41	F	2139.6	2140	1	250	50		
	2800	OTTA	45	C	2147	2150.5	21	44	14		
26	200	GORK	44	NS	0356		64 E		5		
	221	ABST	44	NS	0500	0947	480	37			
	260	ONDR	44	NS	0635 E		452 D	206	14		
	202	IZMI	44	NS	0800		240	110			
	410	SGMR	44	NS	0951 E	1059.3	729 D	4			
	245	SGMR	44	NS	0951 E	1229.7	729 D	385			
	200	HIRA	44	NS	1955 E	0025	810 D	350	100		ML
	100	HIRA	43	NS	2020	2300	785 D	550	150		SL
	2950	GORK	1	S	0439.7	0441.5	5.2	9.8	4.5		
	9100	GORK	1	S	0440.3	0441.4	4.1	6	3		
	228	HARS	45	C	0852	0852.3	3	490	160		
	3100	CRIM	29	PBI	0914.5	0919	16	4			
	3100	CRIM	3	S	0914.5	0917	5	17	6		
	2950	GORK	21	GRF	0914.5	0919.1	23	5.2	2.5		
	4995	ATHN		GRF	0916.4	0917.5	5.9	22	13.2		
	2695	ATHN		GRF	0916.5	0917.5	4.8	16.6	9.9		
	8800	ATHN		GRF	0916.5	0917.5	4.7	8.6	5.2		
	9100	GORK	21	GRF	0916.6	0918.5	28.5	7	3		
	2950	GORK	1	S	0916.9	0917.4	2.1	14	7		
	2650	DWIN	1	S	0916	0917	3	10	5		
	9100	GORK	1	S	0917	0917.2	.8	7	3		
	9500	BERL	1	S	0917	0917.3	1	7.6			
	1470	BERL	1	S	0917	0917.7	1	1.3			
	3000	BERL	3	S	0917	0917.3	1.5	12			
	10400	BERN	8		1024	1026	11	40			
	8400	BERN	8		1024	1026	11	40			OPR
	536	ONDR	2	S/F	1024.6	1026.2	5	20	4		
	127	TORN	47	GB	1024.8	1026.3	4.3	750	200		

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	9100	GORK	4 SF	1025	1026	5.3	34	17		
	202	IZMI	5 S	1025	1026	2	1600	600		
	1470	BERL	3 S	1025	1026.3	3	6.7			
	228	HARS	45 C	1025	1025.6	2	2300	570		
	606	SGMR	3 S	1025	1026.2	1.8	17	3		5
	245	SGMR	48 GB	1025.1	1026.2	2.1	730	146		5
	234	POTS	4 S/F	1025.1	1026	2	1100	50		
	113	POTS	4 S/F	1025.2	1026	2	7000	1400		
	1415	SGMR	3 S	1025.2	1026.1	2.8	8	2.5		5
	950	GORK	2 SF	1025.3	1026.1	2.6	12			
	650	GORK	2 SF	1025.4	1026.2	2.6	7	1.5		
	3000	BERL	1 S	1025.5	1026.4	2.5	5			
	9500	BERL	3 S	1025.5	1025.8	1.2	34			
	410	SGMR	6 S	1025.8	1026.1	1.4	153	31		5
	2950	GORK	1 S	1025.8	1028.3	2.2	4.8	2.4		
	808	ONDR	3 S	1025.8	1025.8	.2	38			
	930	BORD	46 C	1025	1026.1	3	33	4		
	127	TORN	41 F	1050.5	1055.7	12 U	35			
	2800	OTTA	20 GRF	1245	1300	35	2.6	1.3		
	2800	OTTA	20 GRF	1340	1400	20	3	1.5		
	8400	BERN	8	1522.1	1522.8	5	21			OPR
	10400	BERN	8	1522.1	1522.8	5	17			OPR
	2800	OTTA	1 S	1531	1531.5	1	1.4	.7		
	606	SGMR	3 S	1532	1538.9	12.7	80.5	24.2		
	2800	OTTA	240AR	1534	1545	11	3			
	4995	BOUL	3 SF	1535.5	1539	4.5	18	6		
	410	SGMR	6 S	1535.9	1536.5	6.1	63.3	19		
	930	BORD	46 C	1537	1542.3	6	56	6		
	1415	SGMR	3 S	1538.3	1538.7	3.5	13.9	4.2		
	1420	BOUL	3 S	1539 E	1540	2 D	16	5		
	2800	OTTA	2 S/F	1539	1540	5	3.6	1.4		
	930	BORD	8 S	1612.7	1612.7	.1	15	1		
	2800	OTTA	1 S	1652	1654	5	1.8	.9		
	2695	BOUL	21 GRF	1657.5E	1703	43 D	22	7		
	8400	BERN	21	1659.4	1701.9	14	24			OPR
	10400	BERN	21	1659.4	1701.9	14	20			OPR
	7000	SAOP	21 GRF	1700			12			D
	7000	SAOP	21 GRF	1700						
	4995	BOUL	3 SF	1700	1701.5	5.5	18	6		
	2800	OTTA	3 S	1701	1702	4	13.4	6		
	2800	OTTA	29 PBI	1705	1705	25	3.6	1.8		
	7000	SAOP	1 S	1810	1810.4	.6	9			29R
	2695	BOUL	3 S	1825.5E	1826.5	2 D	11	4		
	2800	OTTA	8 S	1825	1825.3	.6	23.6			
	2800	OTTA	1 S	1838	1838	1	2.6	1.3		
	9400	HUAN	S	1955.8	2011.1	42.5	21.6	16.1		L
	2800	OTTA	240 R	1958	2001	3	3.4	1.7		
	4995	SGMR	3 S	1959.2	2002.5	22.8	54.4	16.3		2,SWF
	8800	SGMR	3 S	1959.3	2002.8	18	59.1	17.7		2,SWF
	606	SGMR	45 S	1959.6	2023		73.7			2,SWF
	606	SGMR	45 C	1959.6	2001.5	46.9	55	22.1		2,SWF
	1415	SGMR	3 S	2000	2002.6	24.1	104	31.2		2,SWF
	2695	SGMR	45 C	2000	2009.5		51.5			2,SWF
	2695	SGMR	45 C	2000	2003	20	69.2	20.8		2,SWF
	410	SGMR	49 GB	2001	2002	21.5	527	158		2,SWF
	1420	BOUL	3 SF	2001.5E	2002.5	2.5D	104	35		
	2800	OTTA	46F C	2001.5	2001.8	24	66	15.6		
	2800	OTTA		2001.5	2001.8	3.5	66			
	9400	HUAN		2001.6	2003.2		34.6			L
	9400	HUAN	C	2001.6	2002.7	3.4	51.8	20.4		L
	15400	SGMR	3 S	2001.7	2002.5	1.8	34.5	10.4		2,SWF
	4995	BOUL	45 C	2001	2002	23	43	14		
	2695	BOUL	45 C	2002.5E	2004	14 D	62	21		
	1420	BOUL	30 PBI	2004 E	2010.5	23 D	23	8		
	2800	OTTA		2005	2010	20.5	42.4			
	9400	HUAN	S	2016.6	2017	1	11.5	6.5		D
	2800	OTTA	20 GRF	2027	2113	190	9	4		
	7000	SAOP	3 S	0030	1701.8	3	24			19R
27	500	HIRA	41 F	0141.3	0141.7	2	27	12		WR
	700	SYDN	45 C	0159.2	0159.4	.7				
	2950	GORK		0515.8	0710		47			
	2950	GORK		0515.8	0645.7		258			
	2950	GORK		0515.8	0645.2		324			
	2950	GORK		0515.8	0643.1		155			
	2950	GORK	47 GB	0515.8	0541	177	137			
	3100	CRIM		0520 E	0646					
	3100	CRIM	47 GB	0520 E	0539 D	148	78	23		
	8400	BERN	4	0531.2	0540.7	30	139			OPR
	10400	BERN	4	0531.2	0540.7	30	130			
	5730	IRKU		0532	0540.7		99			L
	5730	IRKU	45 C	0532	0539.7	15	56			L
	228	HARS	45 C	0532.2	0532.4	1	3700	1200		
	650	GORK	28 PRF	0532.7	0533.1	1	9.5	3		
	950	GORK	28 PRF	0532.8	0533.1	1.1	3			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
27	221	ABST 44 NS		0534	0644	395	32			
	202	IZMI 44 NS		0600		360	40			
	260	ONDR 44 NS		0610 E		477 D	209	19		
	127	TORN 44 NS		0650 E	0650.5	480 D	2500 U	10 U		V1
	200	GORK 44 NS		0804 E		206 E		40		
	100	GORK 44 NS		0836 E		174		5		
	1415	SGMR 44 NS		0949 E	1459	731 D	15.7			
	410	SGMR 44 NS		0949 E	1306.5	731 D	177			
	606	SGMR 44 NS		0949 E	1751.8	731 D	90.9			
	245	SGMR 44 NS		0949 E	1018.7	731 D	689			
	9100	GORK		0536.5	0650.1		2800			
	9100	GORK		0536.5	0648		3100			
	9100	GORK		0536.5	0646.5		3300			
	9100	GORK 47 GB		0536.5	0540.5	157	95			
	9100	GORK		0536.5	0646		2460 D			
	9100	GORK		0536.5	0644.6		340			
	9100	GORK		0536.5	0643.1		316			
	9100	GORK		0536.5	0640.5		84			
	4995	ATHN	S/F	0536.9	0540.8	12.3	204.8	61.4		
	1415	MANI 4	S/F	0537.2	0540.8	10.2	56.8	37.9		
	2695	ATHN	S/F	0537.3	0540.8	11.7	74	22		
	8800	ATHN	S/F	0537.5	0540.8	8.5	155	46.5		
	8800	MANI 4	S/F	0538.7	0540.6	6.3	236.4	157.6		
	5730	IRKU		0548	0604		19			L
	5730	IRKU		0548	0553.3		26			L
	5730	IRKU 23	GRF	0548	0551.7	32	27			L
	5730	IRKU 49	GB	0632	0639.6	47	42			R
	5730	IRKU		0632	0650.6		1098			R
	5730	IRKU		0632	0646.6		1143			R
	5730	IRKU		0632	0643		118			R
	5730	IRKU		0632	0641		74			R
	4995	ATHN	GB	0637	0647.7	45.2	1631.3	489.4		
	8400	BERN 47		0637.6	0646.6	90	750 D			OPR
	10400	BERN 47		0637.6	0646.6	90	1749			OPR
	8800	MANI 47	GB	0638	0646.4	24	3470 D	2150 D		IIG
	8800	ATHN	GB	0638.3	0647.7	43.6	3804.3	1141.3		
	2695	MANI 47	GB	0639	0646.4	23	652.8	421.9		
	1415	MANI 4	S/F	0639	0646.4	23	269.8	179.9		
	606	MANI 4	S/F	0639	0647.1	23	270	180		
	950	GORK 47	GB	0639	0645.6	39 U	48			
	950	GORK		0639	0646.3		108			
	650	GORK		0639	0647.2		175			
	650	GORK 47	GB	0639	0645.6	38.4U	110			
	2695	ATHN	GB	0639.1	0647.7	21.5	738.1	221.4		
	1470	BERL 45	C	0639	0647.8	106	545			
	10715	OWIN 48	C	0639		81	260 D			
	2650	OWIN 48	C	0639		71	140 D			
	500	HIRA 43	C	0639	0646.5	27	800	150		WLMR
	536	ONDR 49	GB	0639	0646	51	266	32		
	808	ONDR 49	GB	0639	0647	21	222	112		
	1415	ATHN	S/F	0640.1	0648.7	33.6	494	148.2		
	9500	BERL 45	C	0640 E	0646.4	75 D	3900			
	234	POTS 48	C	0640	0648	254	400			
	228	HARS 47	GB	0641	0645	21	2800	950		
	17000	NOBE 28	PRE	0642.7	0644.7	2.5	78			R
	930	BORD 45	C	0644 E	0646.6	30 D	200			
	113	POTS 48	C	0644	0650	119	700			
	202	IZMI 48	C	0645	0645.5	15	5700			
	202	IZMI 47	GR	0645	0645.5	1.5	5700	3000		
	17000	NOBE 47	GB	0645.2	0646.1	28	3912			R
	100	HIRA 48	C	0645	0646	13	40000 D	2000 U		
	200	HIRA 48	C	0645	0646	15	12000	500		WR
	3000	BERL 45	C	0645 E	0646.5	94 D	718			
	202	IZMI 41	F	0646.5	0647.5	13.5	1200			
	33	UPIC 49	GB	0651.7	0652.7	29.8				
	29	UPIC 48	C	0652.7	0655.3	29.8				
	930	BORD 41	F	0838.8	0810.4	1.9	19	4		
	33	UPIC 42	SER	0857.1	1207.6	228.1				
	29	UPIC 42	SER	0857.1	1207.8	228.3				
	536	ONDR 42	SER	1006	1013.5	18.5	45			
	234	POTS 8	S	1018.6	1018.6	.1	900	300		
	2800	OTTA 21	GRF	1235	1300	90	1.8	.9		
	606	SGMR 3	S	1307.4	1307.9	3.1	38	15		
	245	SGMR 48	GB	1307.4	1307.9	4.6	1800	720		
	410	SGMR 6	S	1307.4	1307.9	1.4	194	78		
	234	POTS 41	F	1307.8	1307.8	3.9	1750	30		
	113	POTS 42	SER	1307.8	1311.4	3.5	200	1		
	536	ONDR 42	SER	1307	1313.5	30	39			
	2800	OTTA 40	F	1310	1310.2	3	5.6			
	8400	BERN 21		1454.7	1456.8	15	19			OPR
	10400	BERN 21		1454.7	1456.8	15	10			OPR
	9400	HUAN	S	1454.7	1504.7	20.7	9.9	5.1		R
	4995	ATHN	C	1454.9	1456.9	14.4	26	7.8		
	2695	ATHN	C	1455	1456.9	11.4	16	4.8		
	4995	BOUL 45	C	1455.5	1456.5	10.5	30	10		

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DAY OF MONTH	FREQUENCY	STATION		TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	1415	ATHN		C	1455.9	1459.2	9.4	18	5.4		
	2800	OTTA	3	S	1455	1457	3.3	18	9		
	7000	SAOP	45	C	1456	1457	32.2	29			22R
	8800	ATHN		C	1456.1	1456.9	11.6	12.6	3.8		
	2695	BOUL	21	GRF	1456 E	1458	19.5D	17	6		
	1420	BOUL	42	SER	1456 E	1459	9 D	24	8		
	2650	DWIN	45	C	1456	1457	9	15	5		
	930	BORD	41	F	1456	1502.3	9.4	38	6		
	2800	OTTA	30	PBI	1458.3	1458.3	12	7.4	3.4		
	2800	OTTA	2	S/F	1501.4	1502.3	3	6	4.4		
	1420	BOUL	3	S	1513.5E	1514	1 D	8	3		
	930	BORD	45	C	1514	1514.4	1	51	8		
	4995	BOUL	45	C	1629.5	1639	13.5	180	60		
	10400	BERN	46		1630	1634 U	60	223 D			OPR
	8400	BERN	46		1630	1634 U	60	236 D			OPR
	7000	SAOP	46	C	1630	1634.6	17.4	327			11R
	9400	HUAN			1630.4	1639.1		259.5			R
	9400	HUAN			1630.4	1635.8		284.3			R
	9400	HUAN			1630.4	1634.6		309			R
	9400	HUAN		C	1630.4	1633.7	12.1	267.7	145.9		R
	15400	SGMR	3	S	1630.4	1634.6	21.1	192	57.6		SWF
	2800	OTTA			1630	1634.8	7.5	101			
	2800	OTTA	46F	C	1630	1639.2	19	173	52		
	1420	BOUL	45	C	1631.5E	1639.5	10.5D	43	14		
	930	BORD	46	C	1631	1633.8	13	71	11		
	2695	BOUL	45	C	1632 E	1641	13 D	195	65		
	2800	OTTA			1637.5	1639.2	11.5	173			
	9400	HUAN		PBI	1642.5	1642.5	45.2	85.9	34		R
	2800	OTTA	29	PBI	1649	1649	90	15	7.5		
	9400	HUAN		S	1739.2	1748.6	27.1	6.6	4.4		C
	930	BORD	42	SER	1743	1746	9	121	2		
	2800	OTTA	1	S	1904	1904.7	2.5	2.2	1		
	9400	HUAN		S	1930.5	1944.8	40.7	11.6	5.4		C
	2800	OTTA	27A	RF	1930		150	3.6	3.3		
	2800	OTTA	24	R	1930	1934	4	3.6	1.8		
	2800	OTTA	20	GRF	1934.2	1937	22	5.6	2.7		
	2800	OTTA	24P	R	1934		126	3.6			
	2800	OTTA	22	GRF	2030	2046.5	50	14	2.8		
	2800	OTTA	26	FAL	2140	2200	20	-3.6	-1.8		
28	200	HIRA	44	NS	0030 E	0228	565 D	140	20		ML
	200	GORK	44	NS	0352 E		421 E		5		
	221	ABST	44	NS	0500	0501	320	17			
	260	ONDR	44	NS	0630 E		500 D	118	8		
	410	SGMR	44	NS	0948 E	1337.2	732 D	18			
	245	SGMR	44	NS	0948 E	2032.3	732 D	138			
	29	UPIC	8	S	0745.9	0746	.2				
	33	UPIC	8	S	0746.1	0746.1	.3				
	100	GORK	41	F	0753.2	0753.4	2.2	70			
	100	GORK			0753.2	0754.8		250			
	29	UPIC	2	S/F	0754.5	0754.7	.6				
	33	UPIC	4	S/F	0754.6	0754.6	.4				
	113	POTS	4	S/F	0754.6	0754.9	.3	100	10		
	228	HARS	45	C	0807.2	0807.8	1.7	530	175		
	228	HARS	45	C	0817	0820.3	8.2	1050	400		
	228	HARS	45	C	0839.2	0839.9	3	720	240		
	234	POTS	4	S/F	0900	0902.1	1.6	900	80		
	606	MANI	47	GB	0912.8	0918.5	18.2	490 D	50		PIKE
	33	UPIC	8	S	0923.6	0923.8	.7				
	29	UPIC	8	S	0923.6	0923.8	.6				
	29	UPIC	42	SER	1048.4	1114.6	26.7				
	33	UPIC	42	SER	1048.7	1114.6	27.1				
	113	POTS	8	S	1050.4	1050.5		115	40		
	113	POTS	8	S	1316.4	1316.4	.3	140	45		
	2800	OTTA	20	GRF	1415	1420	55	4	2		
	2800	OTTA	1	S	1544	1546.5	6	2.4	1.2		
	7000	SAOP	46	C	1558	1612.2	13.2	224			17L
	29	UPIC	42	SER	1603.7	1611.4	15.2				
	33	UPIC	42	SER	1609	1624.8	16.2				
	930	BORD	46	C	1611	1611.8	2	21	3		
	2800	OTTA	21	GRF	1630	1703	70	5	2.6		
	2800	OTTA	1	S	1659.2	1700	1.5	7.2	3.4		
	2800	OTTA	20	GRF	1850	2007	150	4.4	2.2		
	1420	BOUL	45	C	2031.5E	2032	1.5D	24	8		
29	500	HIRA	1	S	0322.3	0324	3.3	6	2		D
	200	GORK	44	NS	0358 E		413 E		10		
	260	ONDR	44	NS	0620 E		461 D	20			
	410	SGMR	44	NS	0946 E	1212.1	734 D	171			
	245	SGMR	44	NS	0946 E	1525.1	734 D	160			
	108	GORK	8	S	0537.7	0538.2	.9	195			
	10400	BERN	4		0730.6	0733.7	28	565			
	8400	BERN	4		0730.6	0733.7	28	650			12L
	221	ABST	45	C	0731	0732	3	55	29		
	500	HIRA	48	C	0731.1	0732.6	10	2400	300		SL

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
	4995	ATHN		S/F	0731.1	0733.1	13.9	362.4	108.7		
	1415	ATHN		S/F	0731.2	0732.7	9.4	181	54.3		
	2695	ATHN		S/F	0731.3	0734.2	7.9	137.7	41.3		
	536	ONDR	46	C	0731.3	0731.3	9	273	52		
	260	ONDR	48	C	0731.5	0733	23	222 D	30		
	8800	ATHN		GB	0731.5	0733.6	12.1	854.8	256.5		
	9500	BERL	29	PBI	0731.5	0733.6	50	530			
	1470	BERL	29	PBI	0731.5	0733	34	149			
	3000	BERL	29	PBI	0731.5	0733	44	147			
	2695	MANI	4	S/F	0731.6	0733.3	5.7	156.7	52.3		
	228	HARS	45	C	0731.6	0732	4	2700	900		
	606	MANI	4	S/F	0731.6	0732.7	8.9	445	57		
	1415	MANI	4	S/F	0731.6	0733.5	6.7	155.5	51.8		
	234	POTS	4	S/F	0731.8	0732.8	2.4	9800	300		
	950	GORK			0731.8	0733.9		176			
	950	GORK	46	C	0731.8	0733.1	12.7	215			
	202	IZMI	45	C	0731.8	0732.5	2.8	2100	1000		
	17000	NOBE	45	C	0731.9	0733.8	5	417			L
	17000	NOBE	29	PBI	0731.9	0736.9	15	22			L
	2950	GORK	3	S	0731.9	0733.6	4.3	206			
	9130	GORK	46	C	0731.9	0733.5	4	630			
	9100	GORK			0731.9	0734		700			
	8800	MANI	47	GB	0731.9	0733.7	5.4	599.6	199.9		II
	930	BORD	45	C	0731	0732.7	18	213	20		
	2650	DWIN	4	S/F	0731	0734	8	150	70		
	10715	DWIN	4	S/F	0731	0734	8	260 D			
	808	ONDR	45	C	0731		9	70 D	49		
	113	POTS	42	SER	0732	0732.8	12	6300	90		
	200	GORK	8	S	0732.2	0733	1.7	1800			
	650	GORK	29	PBI	0732.2	0736	21.3	8.5	4		
	650	GORK			0732.2	0733 U		50 D			
	650	GORK	46	C	0732.2	0732.3	6	50			
	100	HIRA	46	C	0732.5	0733	5	9000	1300		WL
	29	UPIC	45	C	0732.6	0734	1.8				
	100	GORK			0732.6	0745.7		1290			
	100	GORK			0732.6	0744		2000			
	100	GORK	46	C	0732.6	0733	15	2830			
	33	UPIC	45	C	0732.9	0733.3	1.9				
	200	HIRA	46	C	0732	0732.5	3	2000	600		D
	2950	GORK	29	PBI	0736.3E	0736.3	9.3	19			
	9100	GORK	29	PBI	0736 E	0736	18	105			
	127	TORN	45	C	0739.8	0742.5	14 U	200	7		
	200	GORK	3	S	0748.3	0748.8	1.2	90 D			
	33	UPIC	45	C	0901.2	0903	3.1				
	29	UPIC	45	C	0901.3	0903.1	2.5				
	33	UPIC	2	S/F	0958.6	0958.7	.8				
	29	UPIC	2	S/F	0958.7	0958.7	.5				
	113	POTS	8	S	1018.1	1018.2	.1	350	120		
	202	IZMI	5	S	1033.2	1033.5	.8	200	100		
	33	UPIC	42	SER	1047.3	1052.9	139.9				
	29	UPIC	42	SER	1047.5	1053.3	139.1				
	127	TORN	41	F	1200.8	1206.9	65 U	41			
	2800	OTTA	20	GRF	1203	1207	12	3	1.8		
	536	ONDR	45	C	1210.5	1212	3	17	3		
	113	POTS	41	F	1254.7	1254.8	1.5	120	3		
	7000	SAOP	1	S	1336.4	1338.2		10			31R
	2800	OTTA	2	S/F	1337.5	1338.4	3	3.2	1.5		
	2800	OTTA	3	S	1539.8	1540.4	3	22	4.4		
	4995	BOUL	3	S	1539	1540	1.5	12	4		
	2695	BOUL	3	S	1541 E	1541.5	1 D	16	5		
	2800	OTTA	21	GRF	1601	1620	58	3.4	1.7		
	4995	BOUL	45	C	1603	1611	16.5	96	32		
	4995	SGMR	4	S	1604	1612	14.4	92	28		
	8800	SGMR	4	S	1604.1	1612.2	14.1	143	43		
	15400	SGMR	4	S	1604.3	1612.2	14.9	99	29		
	10400	BERN	4		1604.3	1612.2	46	126			
	8400	BERN	4		1604.3	1612.2	46	163			16L
	2695	ATHN		GRF	1604.5	1612.2	11.7	26	15.6		
	4995	ATHN		GRF	1604.6	1612.4	15.1	132.8	79.7		
	8800	ATHN		GRF	1604.7	1612.4	16.5	132.5	79.5		
	9400	HUAN		C	1604.7	1612.2	13.4	161.5	70.4		L
	2695	SGMR	3	S	1604.8	1612.3	11.4	44	13		
	2800	OTTA			1604	1607	5	29			
	2800	OTTA	45	C	1604	1612.2	15	40	18.8		
	930	BORD	40	F	1604	1611.5	11	16	5		
	2695	BOUL	45	C	1605 E	1613	12.5D	33	11		
	228	HARS	45	C	1607.2	1607.6	2	1200	400		
	2800	OTTA			1609	1612.2	10	40			
	1420	BOUL	20	GRF	1610.5E	1612	5 D	4	1		
	9400	HUAN		PBI	1618.1	1618.1	14	16.1	6.5		L
	2800	OTTA	8	S	1857.3	1857.5	.7	3			
	2800	OTTA	8	S	1858.5	1859	.9	10.4			
	1415	SYDN	40	F	2351.2	2352.2	2.6				
	1420	BOUL	45	C	2351 E	2351.5	2.5D	25	8		
30	2695	PENT	21	GRF	0020	0030	22	4.8	2.4		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
30	1415	SYDN	46 F	0022.9	0026.3	5.3				
	5730	IRKU	21 GRF	0023.5	0026.3	18	10	3		R
	2695	MANI	4 S/F	0023.7	0026.1	5.8	21.4	7.1		
	606	MANI	4 S/F	0023.7	0026.1	4.8	20.3	6.8		
	1415	MANI	4 S/F	0023.7	0026.2	4.3	21	7		
	500	HIRA	41 F	0023	0027.4	6.6	50	10		WL
	700	SYDN	40 F	0024.2	0026.3	4.3				
	2695	BOUL	20 GRF	0024.5E	0027	4.5D	16	5		
	2695	PENT	4 S/F	0024	0026	6	13.4	6		
	1420	BOUL	3 S	0025 E	0026	4 D	16	5		
	200	GORK	43 NS	0350		410 E		5		
	100	GORK	44 NS	0351 E		69 D		5		
	260	ONDR	44 NS	0600 E		493 D	67	3		
	410	SGMR	44 NS	0944 E	1645.6	736 D	28.6			
	245	SGMR	44 NS	0944 E	1137.7	736 D	57.7			
	1415	SGMR	44 NS	1657.3	1657.9	1.7	91.2	27		
	410	SGMR	44 NS	1657.6	1657.9	1.3	95.4	29		
	606	SGMR	44 NS	1657.8	1657.9	.6	95.6	29		
	5730	IRKU	2 S	0519	0522.4	6	17	3		R
	2695	ATHN	S	0520.5	0522.4	5.1	32.4	9.7		
	8800	ATHN	S	0521.1	0522.4	3.9	33.1	9.9		
	1415	ATHN	S	0521.2	0522.4	2.6	13.5	4.1		
	4995	ATHN	S	0521.3	0522.5	3.9	30.8	9.2		
	8400	BERN	3	0521.5	0522.3	3	30			30L
	10400	BERN	3	0521.5	0522.3	3	26			
	2695	MANI	3 S	0521.8	0522.2	1.5	27.6	9.2		II
	1415	MANI	1 S	0522	0522.2	.8	2.9	1		
	100	GORK		0522	0525.3		85			
	100	GORK		0522	0524.4		130			
	100	GORK		0522	0523.5U		215 D			
	100	GORK	45 C	0522	0522.8U	3.8	215 D			
	33	UPIC	45 C	0522.1	0522.4	2.2				
	29	UPIC	45 C	0522.1	0522.6	1.7				
	9100	GORK	21 GRF	0522.4	0545	38	10	5		
	950	GORK	1 S	0522.6	0523.2	1.9	5	2.5		
	2950	GORK	3 S	0522.6	0523	1.4	42	21		
	9100	GORK	1 S	0522.8	0523	.5	20	10		
	200	GORK	3 S	0523.4	0523.5	.6	39	19		
	2950	GORK	1 S	0531.1	0531.2	.5	14.6	7		
	200	GORK	2 SF	0544.8	0545.2	1.6	16			
	650	GORK	1 S	0545.2	0546.4	.4	3.5			
	650	GORK	21 GRF	0545.2	0604	26.8	2.8			
	9100	GORK	1 S	0545.3	0545.8	.9	5	3		
	606	MANI	1 S	0614.2	0614.6	.6	6.6	4.4		
	2695	MANI	1 S	0614.3	0614.6	.5	5.5	3.7		
	1415	MANI	1 S	0614.5	0614.7	.3	2.9	1.9		
	29	UPIC	45 C	0724.5	0725.6	1.3				
	33	UPIC	45 C	0724.6	0725	1.8				
	2800	OTTA	240 R	1144	1456	12	3.2	1.6		
	33	UPIC	45 C	1222.3	1223.9	1.9				
	29	UPIC	45 C	1222.7	1224	1.5				
	2800	OTTA	21 GRF	1610	1630	80	6	3		
	2800	OTTA	1 S	1617.7	1618.3	4	4	2		
	2800	OTTA	26 FAL	1950	2005	15	-3.2	-1.6		
	9400	HUAN	S	2148.5	2149	1.7	29.4	17.5		R
	4995	BOUL	3 S	2148	2148.5	2	10	3		
	2800	OTTA	8 S	2149	2149	.1	30			
	2695	BOUL	3 S	2149 E	2149.5	1 D	22	7		
	2800	OTTA	21 GRF	2155	2210	35	6.6	3.6		
	4995	BOUL	6 S	2157.5	2158.5	2	111	37		
	2800	OTTA	4 S/F	2158.2	2159	2	92	43		
	9400	HUAN	S	2158.3	2159	1.4	44	18.4		L
	2695	BOUL	45 C	2159 E	2200	2 D	62	31		
	700	SYDN	40 F	2223.1	2224.8	2.9				
	17000	NOBE	1 S	2248.5	2248.8	1.3	30			R
	2695	PENT	21 GRF	2335	2410	125	20.6	8.2		
	35000	NAGO	22 GRF	2355	0029	37	13			
	2695	PENT	1 S	2405	2405.9	1.3	4.6	2.3		

Reports received from the following observatories:

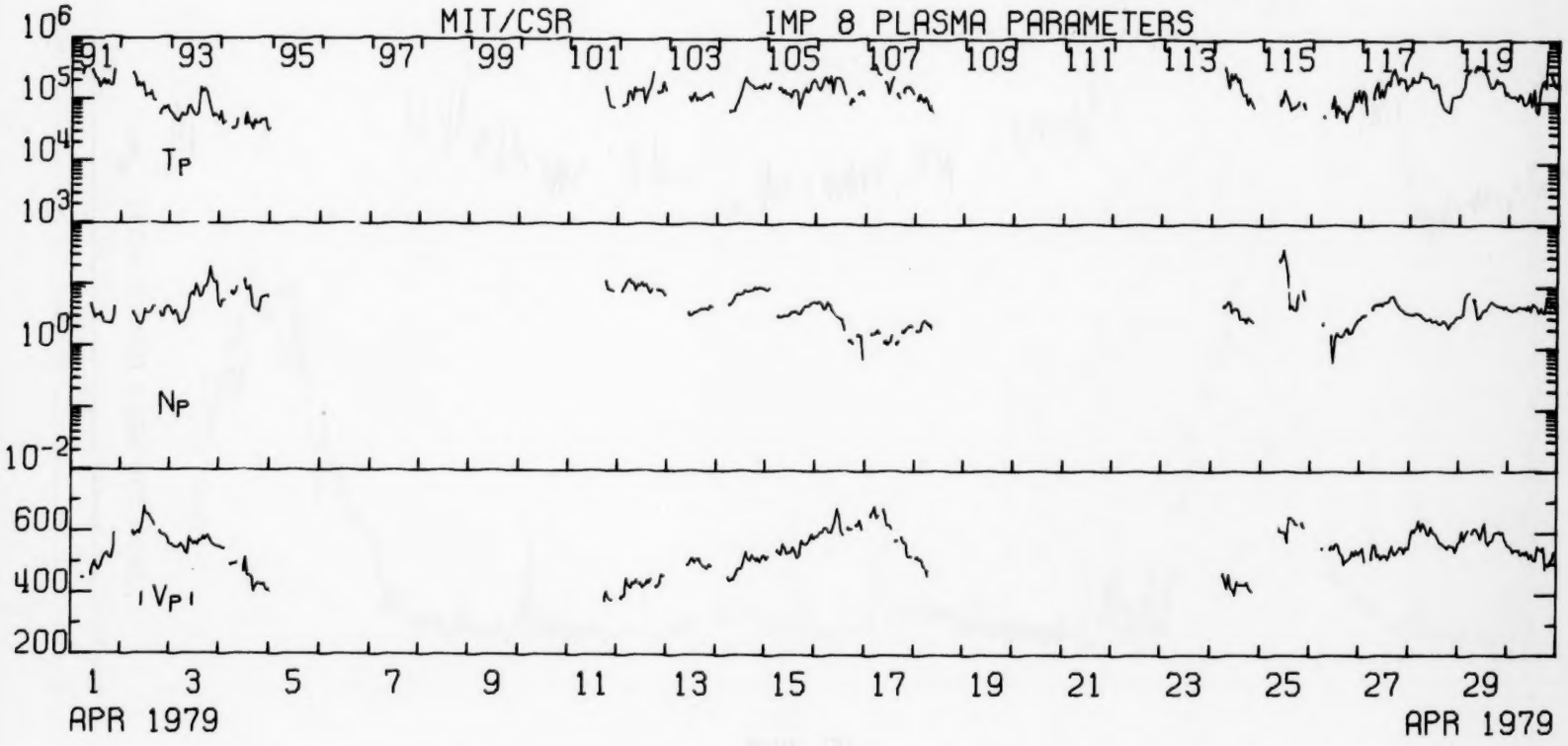
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

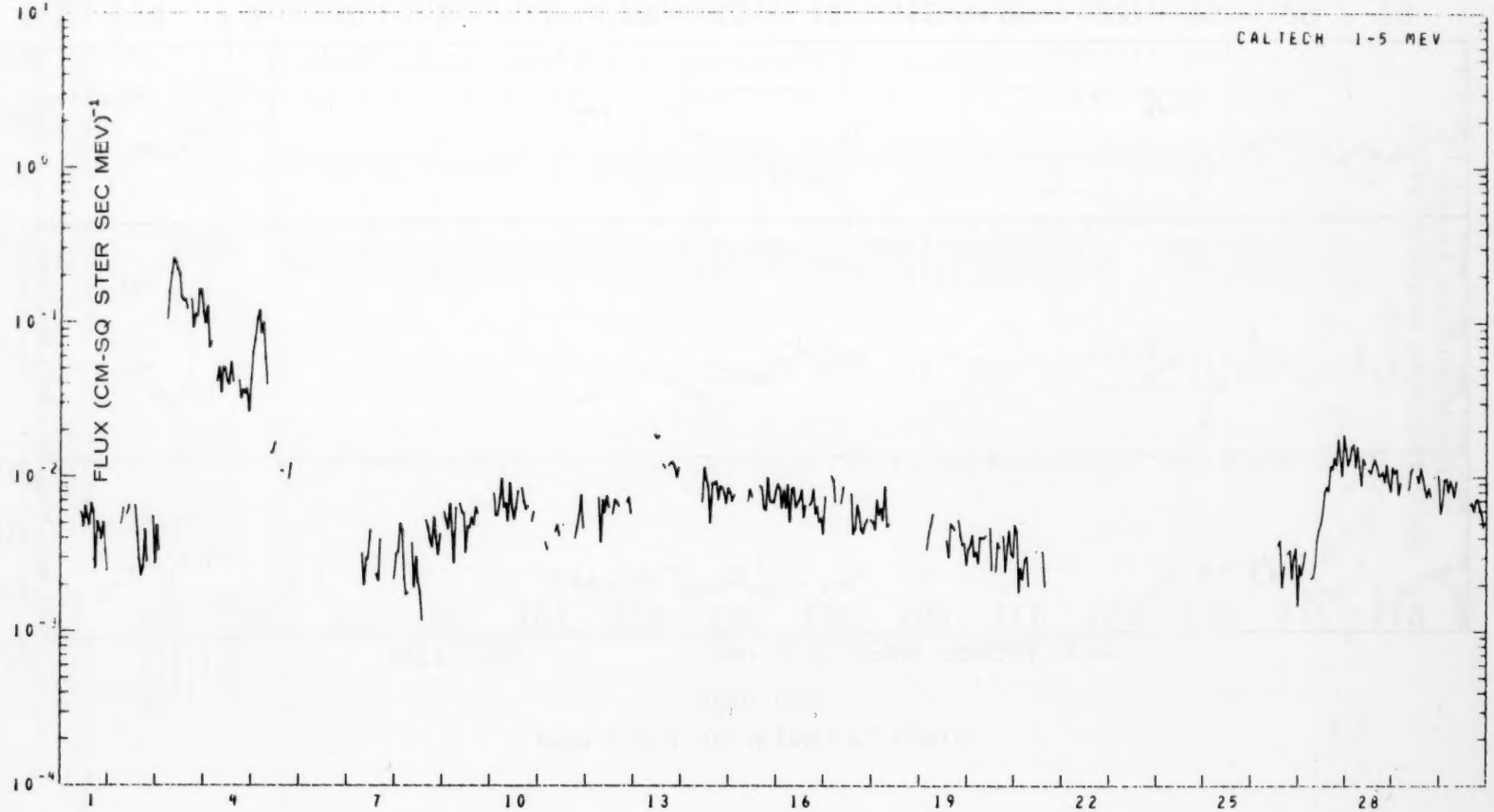
IMP 8 SOLAR WIND PLASMA

APRIL 1979



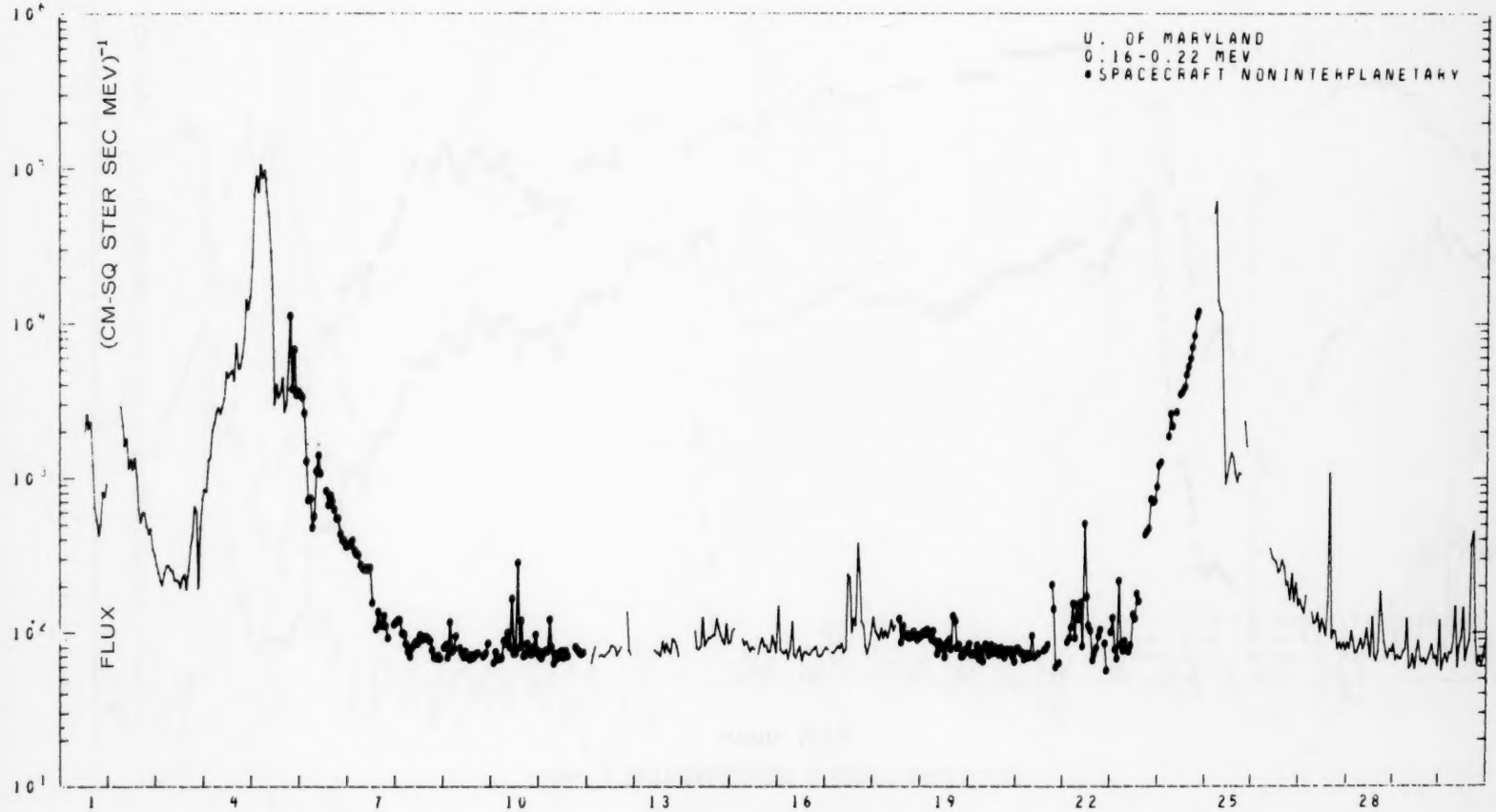
IMP 8 ELECTRONS

APRIL 1979



IMP 8 LOW ENERGY PROTONS

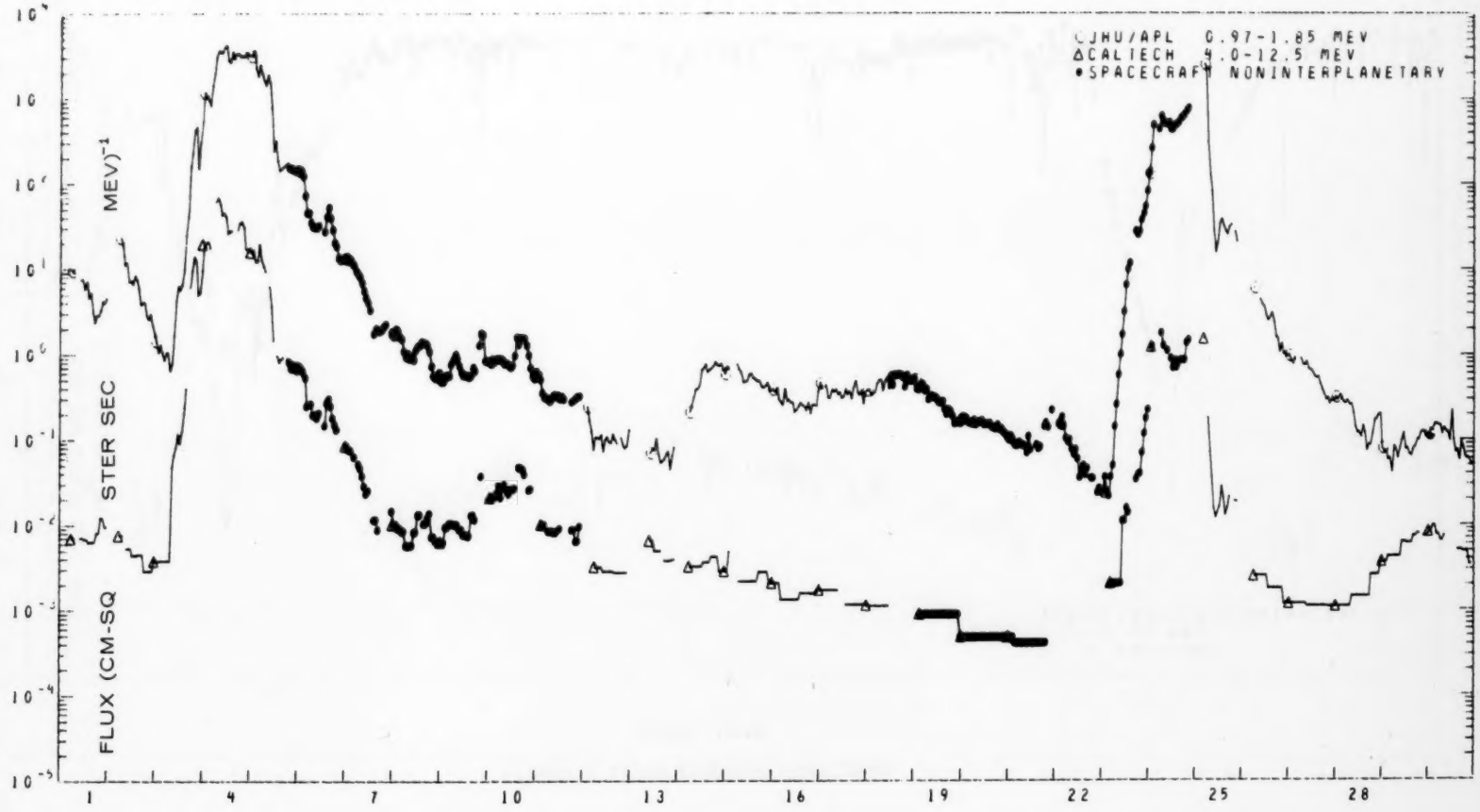
APRIL 1979



27 Apr 79

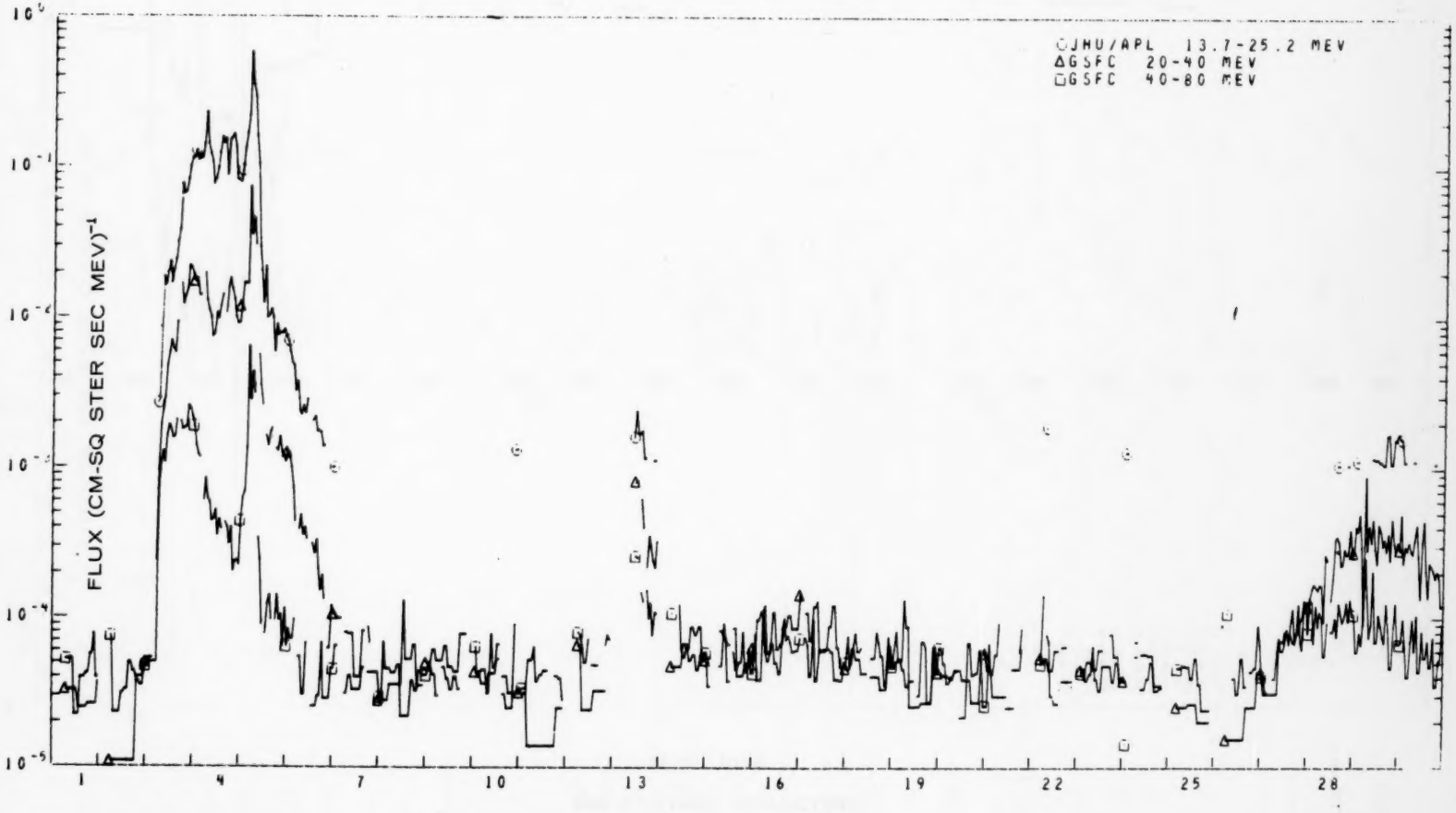
IMP 8 INTERMEDIATE ENERGY PROTONS

APRIL 1979



IMP 8 HIGH ENERGY PROTONS

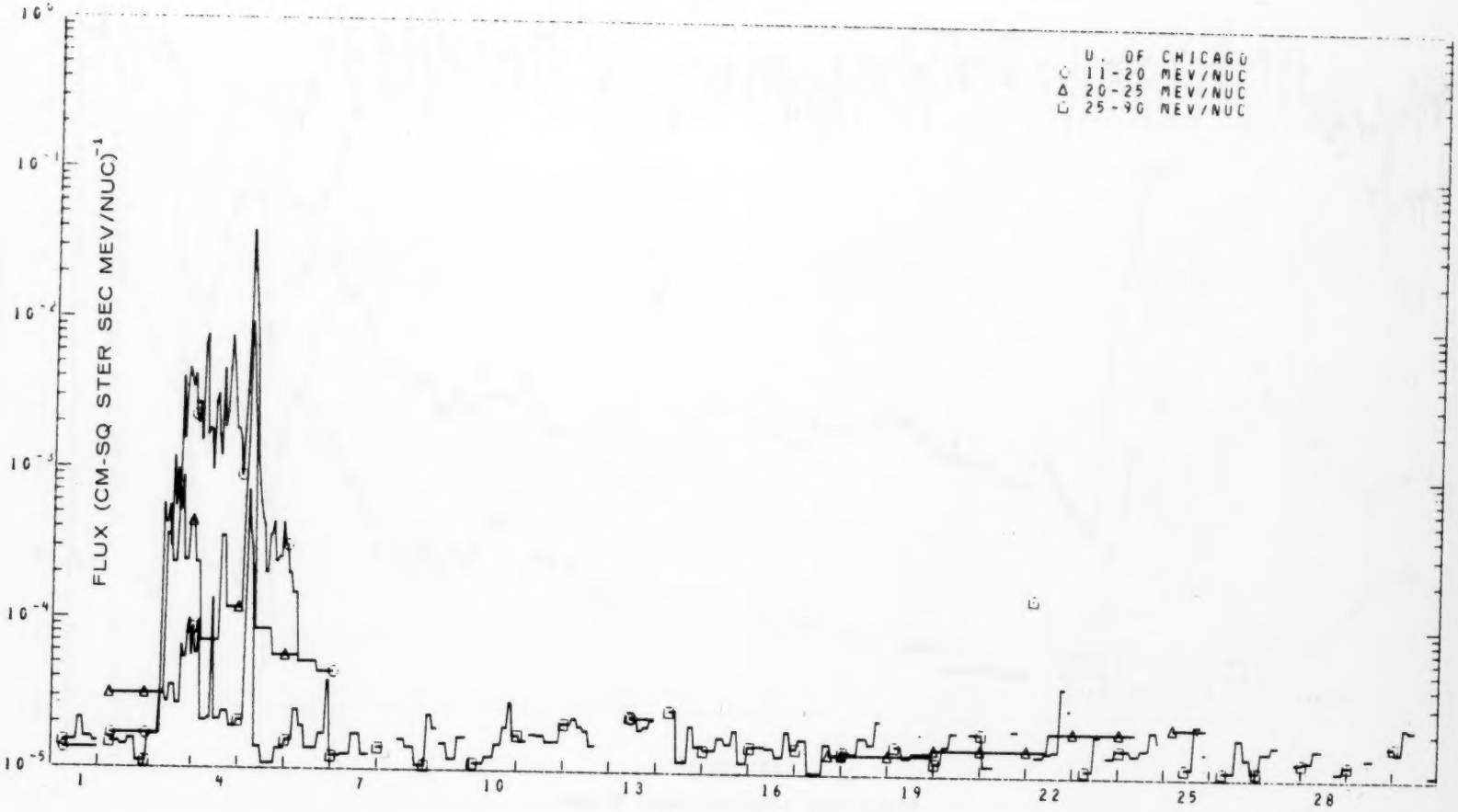
APRIL 1979

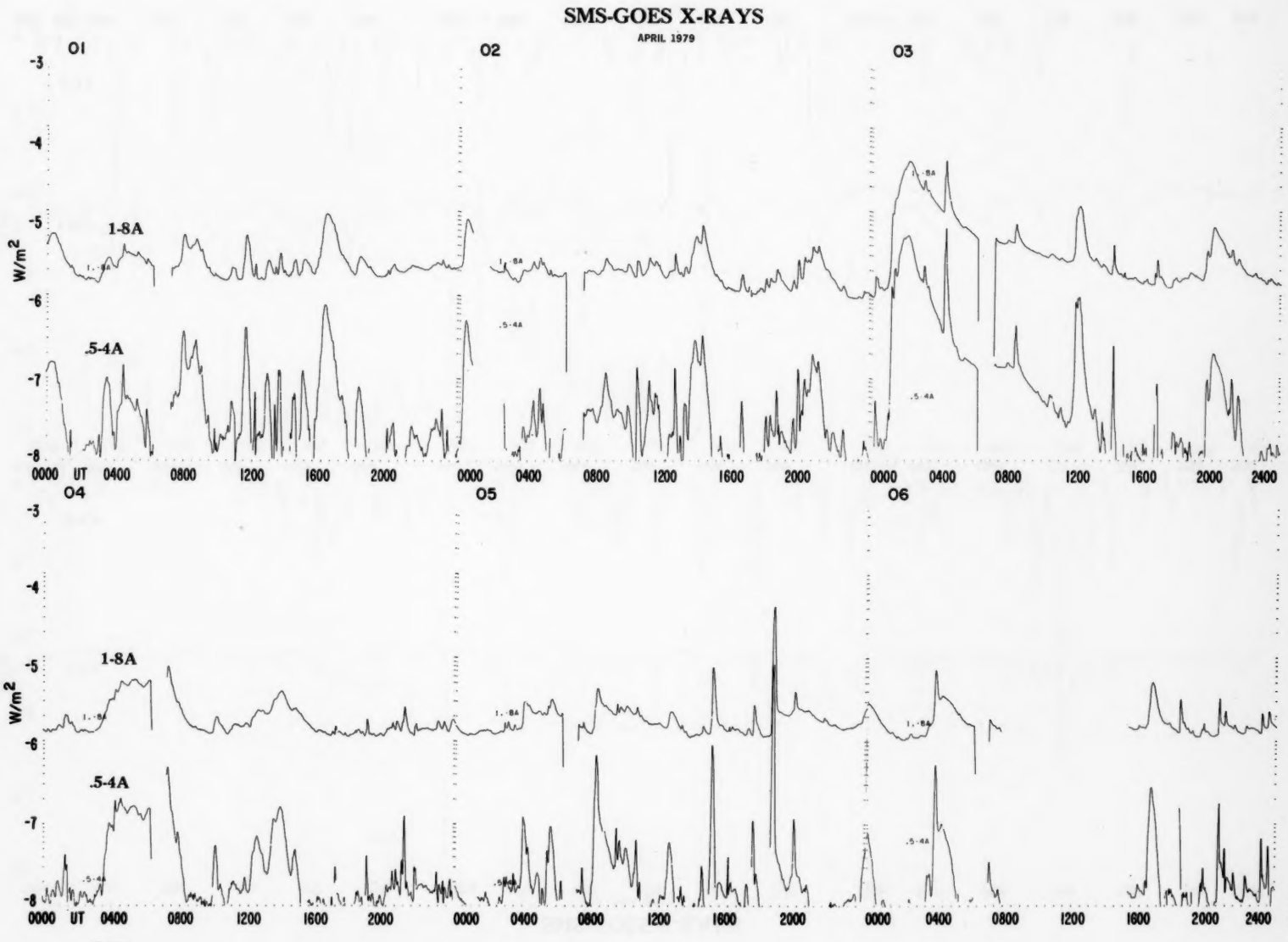


29 Apr 79

IMP 8 ALPHA PARTICLES

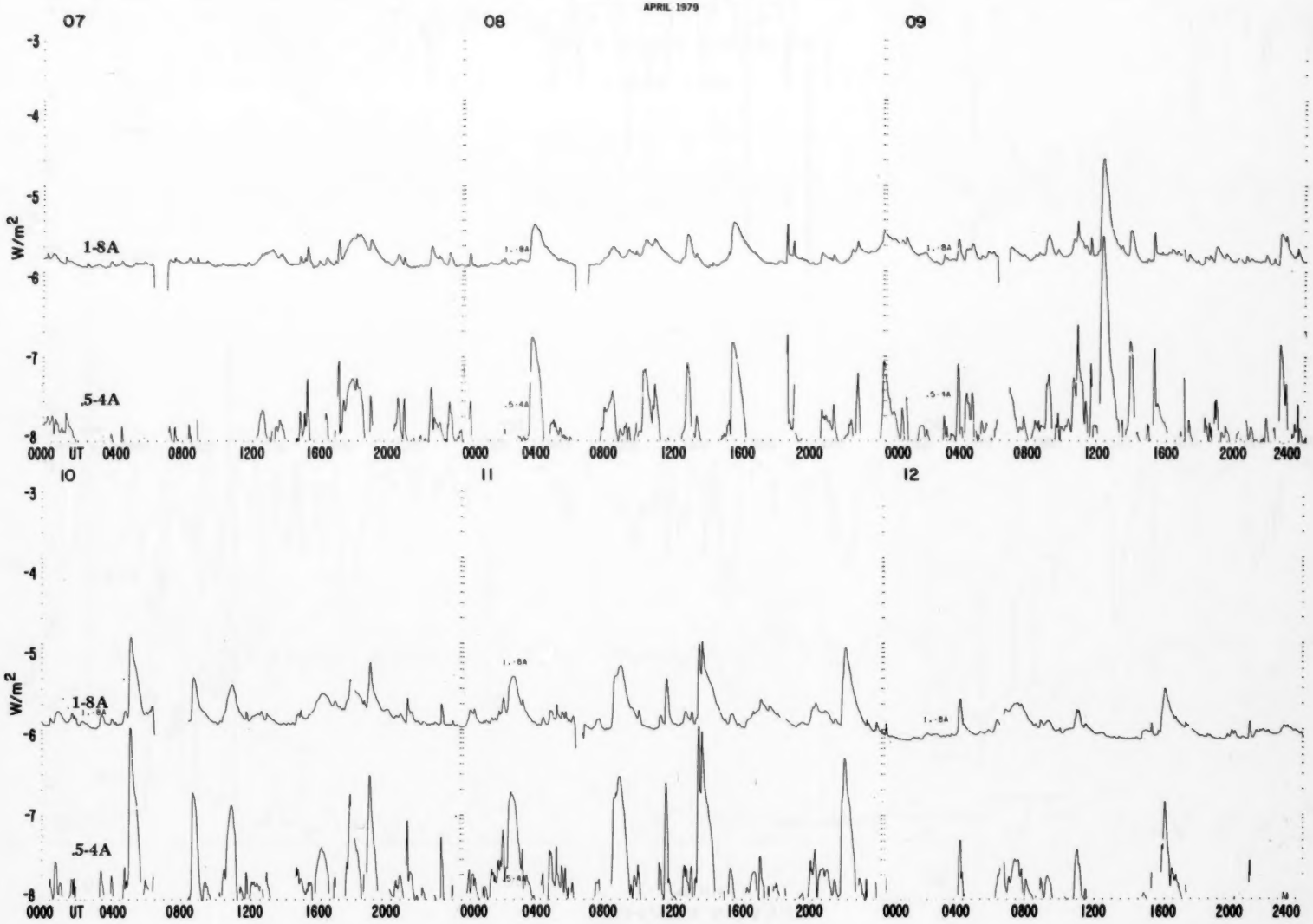
APRIL 1979

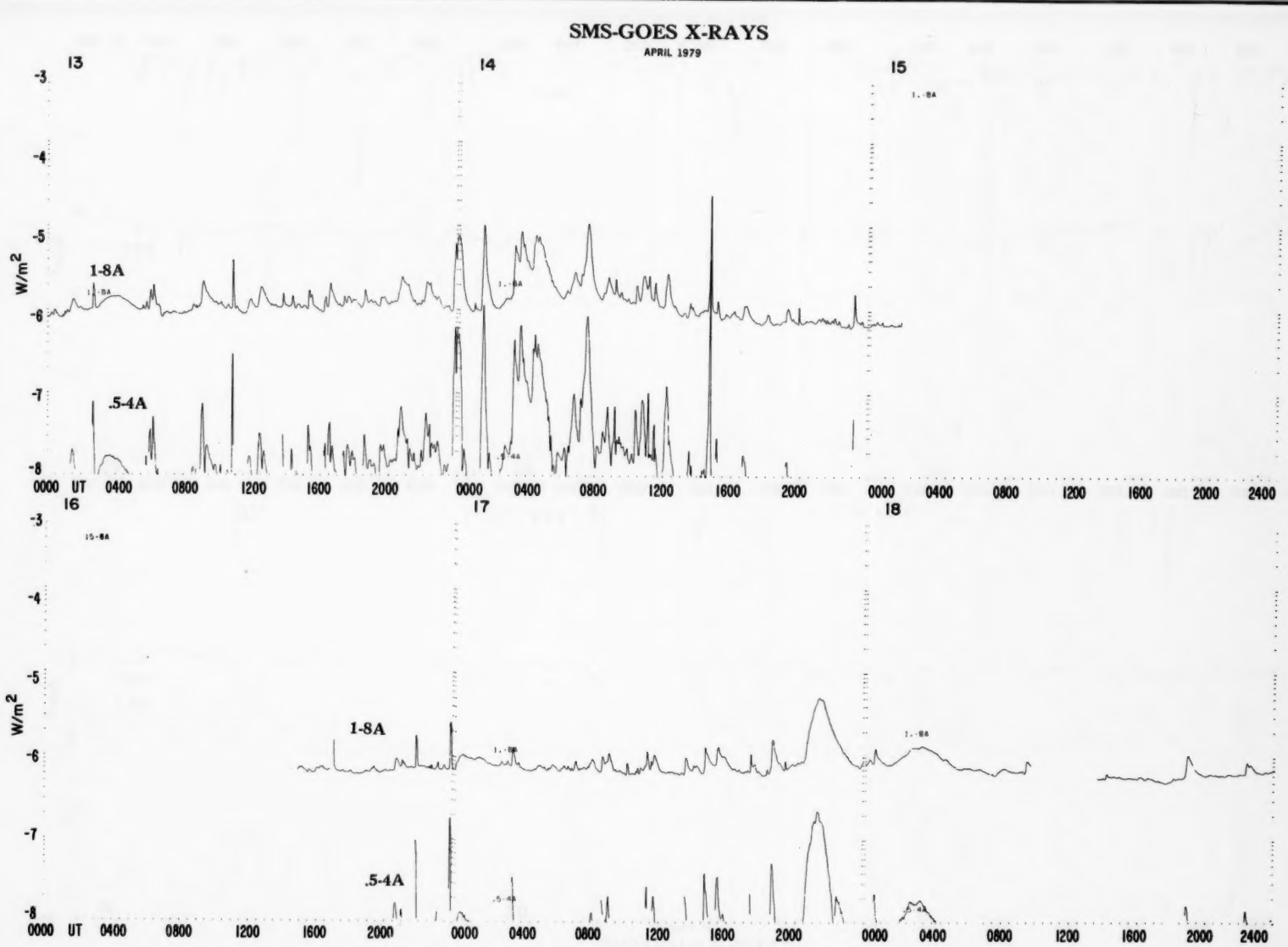


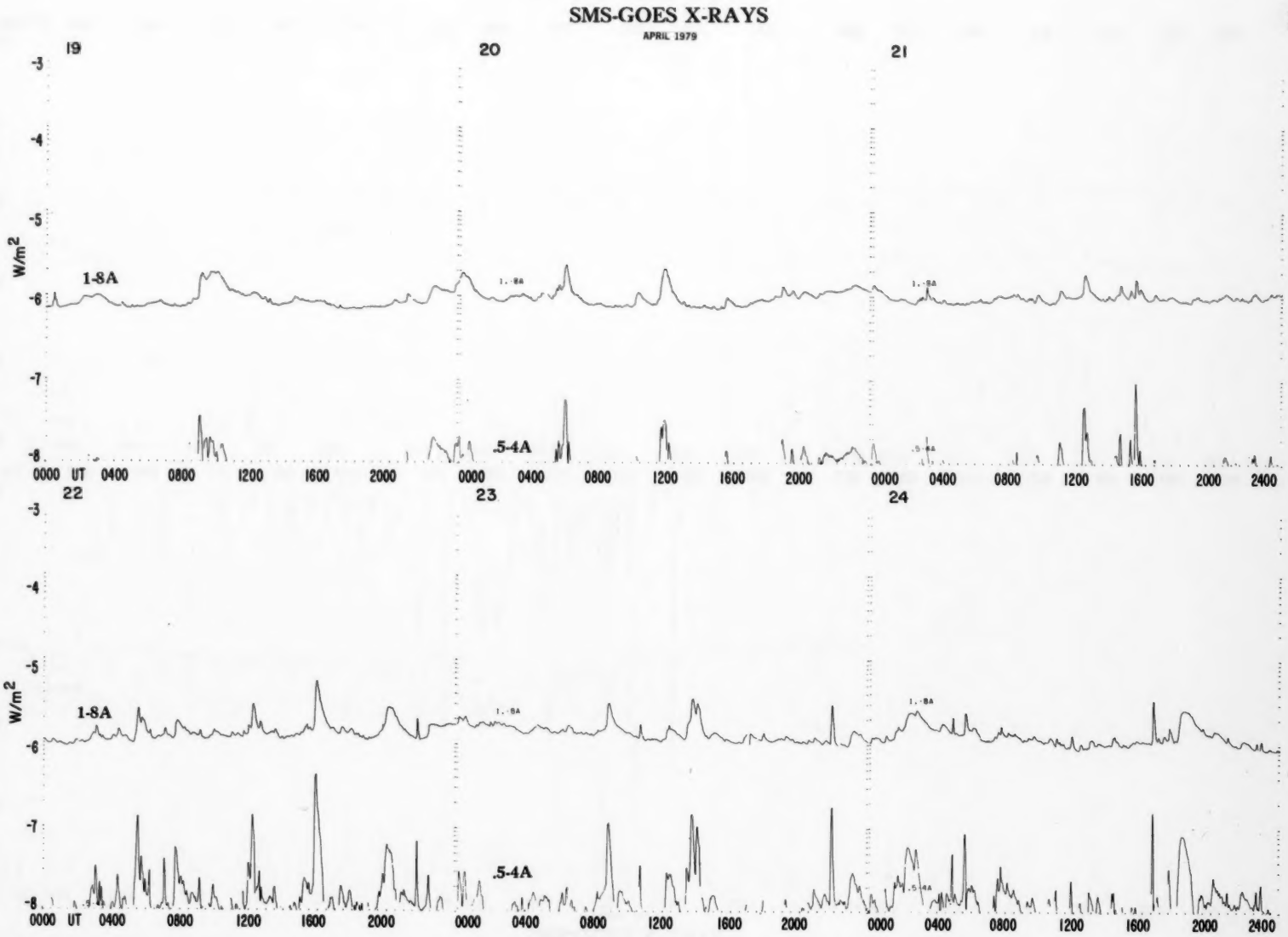

SMS-GOES X-RAYS
APRIL 1979
01
02
03
04
05
06
1-8A
.5-4A
W/m2
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400

SMS-GOES X-RAYS

APRIL 1979




SMS-GOES X-RAYS
APRIL 1979
13
14
15
16
17
18
1-8A
.5-4A
W/m2
-3
-4
-5
-6
-7
-8
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400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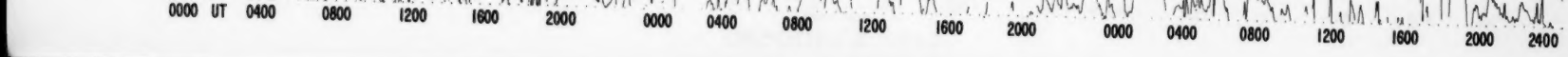
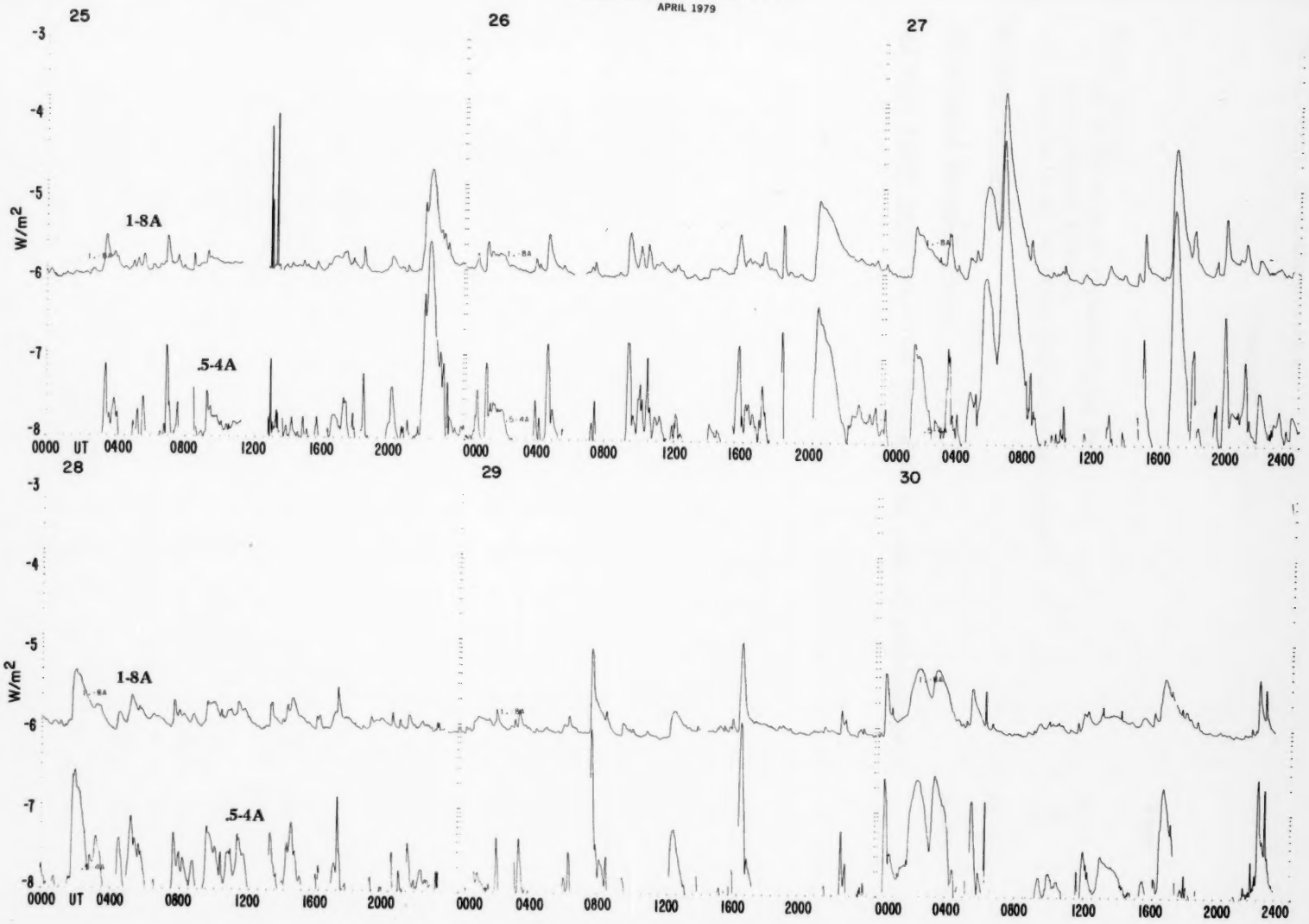
APRIL 1979
19
20
21
22
23
24
W/m2
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT
0400
0800
1200
1600
2000
0000
0400
0800
1200
1600
2000
0000
0400
0800
1200
1600
2000
2400



SMS-GOES X-RAYS

APRIL 1979



SGD 422 Part II (Comprehensive)

FEBRUARY 1979 DATA

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Hα SOLAR FLARES

FEBRUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
855 CULG	01	0017	0021	0038	N22	E06	.479	15793	1.5	21	-F		C	0021	60	.7		Y5
856 CULG	01	0202	0205	0215	N26	W90	1.001	15787	25.3	13	-N		C	0205	30			Y5
857 CULG	01	0513	0515	0522	S13	E52	.734	15804	5.1	9	-F		C	0515	30	.5		Y5
858 CULG	01	0547	0552	0609	N18	E42	.742	15802	4.4	22	-F		C	0552	60	.9	F	Y5
859 CULG	01	0612	0614	0623	N11	E32	.589	15802	3.7	11	-N		C	0614	30	.4		Y5
860 CULG	01	0708	0714	0722	N06	E25	.465	15802	3.2	14	-N		C	0714	60	.7		Y5
GRP71861	01	0752>9	0811+4	0905	S22	E57	.841	15800	5.6	73	3N				1000	19.1	L	
KANZ	01	0752	0812	0913	S22	E55	.823	15800	5.5	81	2B	*						
CULG	01	0759	0811	0826D	S24	E61	.876	15800	5.9	27D	3N		P	0811	1100	22.0	L	
CATA	01	0805	0815	0905D	S21	E55	.822	15800	5.5	60D	2B	*	P	0815	534	9.6		
MONT	01	0812E	0812	0858	S22	E59	.856	15800	5.8	46D	2N		C	0812	1000		B	
GRP71862	01	0903+2	0905+4	1026	S21	E90	.999	15808	8.1	83	1N						IKLP	
KODA	01	0903	0905	1036D	S18	E90	.999	15808	8.1	93D	3B		P	0903			CFIK	
KANZ	01	0905	0909	1015	S22	E90	.999	15808	8.1	70	-B	2					EPL	
CATA	01	0905	0905	0905D	S21	E90	.999	15808	8.1		1F	2	P	0905	84			
	01	1247	1434	NO FLARE PATROL														
	01	1447	1456	NO FLARE PATROL														
863 RAMY	01	1618	1618	1636	N07	E24	.458	15802	3.5	18	-N	3	C		30			Y5
GRP71864	01	1646	1648 1653	1700	N07	E24	.458	15802	3.5	14	-N							
RAMY	01	1646	1653	1700	N07	E24	.458	15802	3.5	14	-N	3	C		26			
RAMY	01	1646	1648	1649	N07	E24	.458	15802	3.5	3	-N	3	C		26			
865 RAMY	01	1702	1705	1719	S15	E46	.720	15804	5.2	17	-N	3	C		49		F	Y5
866 MCMA	01	1749	1755	1805	S12	E48	.740	15804	5.3	16	-F		C	1755	30	.5	E	Y5
867 MCMA	01	1805	1808	1825	N08	E26	.492	15802	3.7	20	-F		C	1808	30	.3	EH	Y5
GRP71868	01	1847	1857	1910	N21	E23	.576	15796	3.5	23	-N						E	
MCMA	01	1847	1857	1910	N21	E21	.559	15796	3.4	23	-N		C	1857	60	.7	E	
PALE	01	1849E		1906D	N21	E26	.604	15796	3.7	17D	-N	2	C				DE	
GRP71869	01	1928+5	1934+4	1955	S12	E46	.717	15804	5.3	27	-N				40	.6		
MCMA	01	1928	1938	2003	S12	E46	.717	15804	5.3	32	-N		C	1938	25	.4	D	
RAMY	01	1933	1934	1950	S13	E46	.717	15804	5.3	17	-B	3	C		52		F	
870 RAMY	01	2033	2033	2038	N09	E26	.499	15802	3.8	5	-B	3	C		24		F	Y5
871 PALE	01	2333	2333	2342	S13	E42	.669	15804	5.1	9	-N	3	C		35		DE	Y5
GRP71872	02	0015>9	0021+5	0033	N05	E15	.320	15802	3.1	18	-N				140	1.5	J	
MITK	02	0015	0022	0032	N05	E15	.320	15802	3.1	17	-N		C	0022			E	
MANI	02	0018E	0021	0022D	N05	E15	.320	15802	3.1	4D	-B	2	C		110		F	
VORO	02	0019	0021	0033	N04	E16	.324	15802	3.2	14	-N		C	0021	179	1.9	EJ	
PALE	02	0026	0026	0033	N07	E21	.418	15802	3.6	7	-B	3	C		120		F	
GRP71873	02	0037	0041+3 0105	0145	N08	E23	.453	15802	3.8	68	-N						EJKL	
VORO	02	0037	0041	0126D	N08	E22	.440	15802	3.7	49D	-N		C	0109	170	1.9	EJKL	
MANI	02	0042E	0044	0104D	N08	E25	.479	15802	3.9	22D	-B	2	C		80		F	
MITK	02	0047E	0105	0145	N10	E23	.469	15802	3.8	58D	-N		C	0105			E	
GRP71874	02	0155+0	0207+1	0255	N10	E24	.482	15802	3.9	60	1F				390	4.4	EJ	
VORO	02	0155	0208	0255	N10	E24	.482	15802	3.9	60	1F		C	0208	394	4.6	EJ	
MITK	02	0155	0208	0243D	N11	E30	.565	15802	4.3	45D	1N		C	0208	180	2.2		
MITK	02	0200	0207	0224	N09	E20	.423	15802	3.6	24	1F		C	0207	220	2.5		
875 VORO	02	0204	0205	0212	S26	W72	.947	15786	27.7	8	-B		C	0205	99		EJL	Y5
876 CULG	02	0348	0356	0414	N21	E30	.643	15796	4.4	26	-F		C	0356	20	.6		Y5
GRP71877	02	0405	0426	0449	N09	E16	.374	15802	3.4	44	-N						E	
CULG	02	0405	0426	0449	N09	E11	.320	15802	3.0	44	-N		C	0426	90	1.0		
MITK	02	0428E		0434D	N09	E22	.448	15802	3.8	6D	-N		P	0428			E	
878 CULG	02	0417	0422	0448	S21	W59	.857	15788	28.8	31	-F		C	0422	10	.2		Y5

Hα SOLAR FLARES

FEBRUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg		
879 CULG	02	0427	0437	0506	S17	E44	.699	15804	5.5	39	-F		C	0437	80	1.1	T	Y5
880 CULG	02	0605	0611	0655	N20	E26	.595	15796	4.2	50	-N		C	0611	80	1.0	L	Y5
881 KAND	02	0655E	0707	0730	S20	E90	.999	15808	9.0	350	-N	*	C					Y5
GRP71882	02	0655+5	0703+3	0710	S12	E41	.654	15804	5.4	15	-F							
KAND	02	0655E	0706	0711	S12	E43	.680	15804	5.5	160	-N		C		125			
CULG	02	0700	0703	0708	S13	E40	.643	15804	5.3	8	-F		C	0703	40	.5	T	
883 KAND	02	0718	0725	0743	N10	E21	.444	15802	3.9	25	-F		C		73			Y5
884 ISTA	02	0835E		0841	N09	E20	.423	15802	3.9	60	-F						E	Y5
885 ISTA	02	0858E		0903	S35	E14	.525	15798	3.4	50	-F						D	Y5
	02	1225	1255	NO FLARE PATROL														
	02	1258	1347	NO FLARE PATROL														
886 CATA	02	1258	1258	1304D	S20	E83	.989	15808	8.8	60	2N	1	P	1258	168			Y5
	02	1352	1407	NO FLARE PATROL														
	02	1408	1708	NO FLARE PATROL														
887 MCMA	02	1800	1803	1805D	S13	E36	.590	15804	5.5	50	-N		C	1803	35	.4	D	Y5
	02	2100	2107	NO FLARE PATROL														
	02	0918	1133	NO FLARE PATROL														
888 CULG	02	2145	2154	2207	S15	E31	.526	15804	5.2	22	-F		C	2154	40	.5		Y5
889 CULG	02	2211	2214	2220	S18	E28	.497	15804	5.0	9	-F		C	2214	50	.6		Y5
890 CULG	02	2302	2308	2339	N14	E88	1.000	15807	9.6	37	-N		C	2308	20			Y5
891 CULG	02	2337	2345	0014	S14	E32	.537	15804	5.4	37	-F		C	2345	60	.7		Y5
892 CULG	03	0002	0007	0026	N11	E88	1.000	15807	9.6	24	-N		C	0007	40			Y5
GRP71893	03	0043+6	0049+0	0059	N08	E09	.288	15802	3.7	16	-F							
CULG	03	0043	0049	0105	N09	E11	.321	15802	3.9	22	-F		C	0049	70	.7		
PALE	03	0049	0049	0052	N07	E07	.257	15802	3.6	3	-N	3	C		22		DE	
894 CULG	03	0115	0119	0128	N11	E90	1.000	15807	9.8	13	-F		C	0119	30			Y5
895 CULG	03	0215	0218	0232	S17	E29	.505	15804	5.3	17	-F		C	0218	60	.7	T	Y5
896 CULG	03	0404	0420	0436	S23	E85	.993	15808	9.5	32	-F		C	0420	20		T	Y5
897 CULG	03	0502	0516	0540	S20	E34	.585	15800	5.8	38	-N		C	0516	100	1.3	L	Y5
898 CULG	03	0514	0518	0533	N13	E80	.990	15807	9.2	19	-N		C	0518	40			Y5
899 ABST	03	0636E	0641	0643D	N13	E88	1.000	15807	9.9	7D	?F		P	0641	87		DJ	Y5
	IMP.1 NO 1 MITK CULG																	
GRP71900	03	0709+4	0719+6	0746	N10	E84	.996	15807	9.6	37	-B						DJ	
ABST	03	0709	0719	0754D	N11	E84	.997	15807	9.6	45D	1N		P	0719	96		DJ	
CULG	03	0713	0725	0737	N10	E84	.996	15807	9.6	24	-B		C	0725	40			
901 CULG	03	0739	0750	0811	S23	E80	.980	15808	9.3	32	?F		C	0750	60		T	Y5
	IMP.1 NO 1 ABST																	
902 CULG	03	0800	0803	0809	S29	W68	.926	15788	29.2	9	-N		C	0803	40	1.0	G	Y5
903 KANZ	03	0904	0904	0908	S09	E25	.422	15804	5.3	4	-F	2						Y5
GRP71904	03	1024	1027	1039	S12	E25	.428	15804	5.3	15	-F						E	
KANZ	03	1024	1027	1035	S12	E25	.428	15804	5.3	11	-F	1						
HTPR	03	1026E		1043	S13	E26	.446	15804	5.4	17D	-N		C	1028	60	.7	E	
905 HTPR	03	1132	1135	1205	N13	E78	.984	15807	9.3	33	-F		C	1135	40		E	Y5
GRP71906	03	1201+2	1204+2	1228	S23	E80	.980	15808	9.5	27	-F							
HTPR	03	1201	1204	1225	S23	E80	.980	15808	9.5	24	-F		C	1204	50			
KANZ	03	1203	1206	1230	S24	E80	.980	15808	9.5	27	-N	2						

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
907 HTPR	03	1203	1205	1208	S13	E25	.432	15804	5.4	5	-F		C	1205	30	.3		Y5
	03	1516	1555	NO FLARE PATROL														
	03	1559	1601	NO FLARE PATROL														
908 RAMY	03	1627	1627	1631	S15	E20	.367	15804	5.2	4	-N	2	C		26			Y5
909 RAMY	03	1714	1714	1720	N06	W04	.221	15802	3.4	6	-N	3	C		30			Y5
	03	1847	1938	NO FLARE PATROL														
	03	1944	2044	NO FLARE PATROL														
	03	2054	2106	NO FLARE PATROL														
	03	2118	2147	NO FLARE PATROL														
	03	2149	2155	NO FLARE PATROL														
	03	2202	2220	NO FLARE PATROL														
	03	0826	0835	NO FLARE PATROL														
910 CULG	03	2254	2259	2309	N14	E04	.351	15802	4.3	15	-N		C	2259	50	.5	F	Y5
911 CULG	03	2309	2310	2315	S17	E12	.275	15804	4.9	6	-F		C	2310	20	.2		Y5
912 CULG	03	2359	2406	0209	N22	W57	.887		30.7	130	-N		C	2406	60	1.3	S	Y5
GRP71913	04	0024+1	0027+0	0038	N21	W35	.693	15793	1.4	14	-F				45	.6	EG	
CULG	04	0024	0027	0046	N22	W34	.690	15793	1.5	22	-N		C	0027	40	.6	G	
VORO	04	0025	0027	0030	N21	W36	.702	15793	1.3	5	-F		C	0027	45	.6	EG	
GRP71914	04	0029+2	0031+0	0046	S15	E17	.323	15804	5.3	17	-N				50	.5	E	
CULG	04	0029	0031	0048	S15	E18	.338	15804	5.4	19	-F		C	0031	40	.4		
VORO	04	0031	0031	0043	S16	E17	.331	15804	5.3	12	-B		C	0031	72	.7	E	
GRP71915	04	0128+1	0131+1	0147	N10	W04	.287	15802	3.8	19	-N						EJ	
CULG	04	0128	0132	0142D	N11	W03	.300	15802	3.8	14D	-N		P	0132	50	.5		
VORO	04	0129	0131	0147	N10	W05	.292	15802	3.7	18	-B		C	0031	81	.8	EJ	
916 CULG	04	0136	0137	0142D	S22	E70	.935	15808	9.3	6D	-F		C	0137	40			Y5
917 CULG	04	0337	0339	0342D	N11	W03	.300	15802	3.9	5D	-N		P	0339	70	.7		Y5
GRP71918	04	0824+5	0824+5	0837	S18	E65	.901	15808	9.2	13	-N						EJ	
ABST	04	0824E	0824	0837	S17	E65	.901	15808	9.2	13D	1F		P	0824	140		EJ	
HTPR	04	0827		0833D	S20	E70	.934	15808	9.6	6D	-N		C	0829	50	1.2	E	
KANZ	04	0829	0829	0837	S18	E62	.879	15808	9.0	8	-N	1						
919 KANZ	04	1104		1121D	N09	W09	.303	15802	3.8	17D	-N	1						Y5
	04	1351	1359	NO FLARE PATROL														
	04	0711	0712	NO FLARE PATROL														
	04	0716	0719	NO FLARE PATROL														
920 HUAN	04	1503E		1512	N04	W20	.382	15802	3.1	9D	-F		P				CE	Y5
921 RAMY	04	1532	1535	1539	N21	W14	.507	15796	3.6	7	-N	3	C		24			Y5
GRP71922	04	1623+3	1626	1632	N19	W17	.504	15796	3.4	9	-N				40	.5	E	
HCMA	04	1623E		1625D	N18	W20	.519	15796	3.2	2D	-F		C	1625	50	.6	E	
RAMY	04	1626	1626	1632	N21	W14	.507	15796	3.6	6	-N	3	C		28			
923 RAMY	04	1632	1644	1652	N21	W14	.507	15796	3.6	20	-N	3	C		30			Y5
GRP71924	04	1708+0	1708+0	1716	S14	E06	.170	15804	5.2	8	-N				30	.3		
HOLL	04	1708	1708	1717	S15	E07	.193	15804	5.2	9	-N	3	C		34			
RAMY	04	1708	1708	1714	S14	E06	.170	15804	5.2	6	-N	3	C		31			
GRP71925	04	1724+0	1725+1	1740	S20	E56	.829	15808	8.9	16	-B				100	1.8	FU	
RAMY	04	1724	1726	1739	S20	E56	.829	15808	8.9	15	1B	3	C		108			
HOLL	04	1724	1725	1740	S20	E57	.838	15808	9.0	16	-B	3	C		91		U F	
926 BIGB	04	1747E	1747	1803	S21	E63	.888	15808	9.5	16D	-N	1	P	1747	60	1.4	E	Y5
GRP71927	04	1754+0	1754+0	1807	S14	E06	.170	15804	5.2	13	-N				30	.3	F	
HOLL	04	1754	1754	1812	S15	E06	.183	15804	5.2	18	-B	3	C		33		F	
RAMY	04	1754	1754	1802	S14	E06	.170	15804	5.2	8	-N	3	C		27			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg		
GRP71928	04	1822+1	1827+1	1847	S13	E05	.146	15804	5.1	25	-B				170	1.7		
RAMY	04	1822	1828	1847	S14	E05	.160	15804	5.1	25	-B	3	C		197		DE	
HOLL	04	1822	1828	1847	S15	E06	.183	15804	5.2	25	-B	3	C		172		F	
MCMA	04	1823	1827	1847	S13	E05	.146	15804	5.1	24	-B		C	1827	120	1.3	E	
BIGB	04	1823	1828	1841	S13	E16	.295	15804	6.0	18	-N	2	C	1828	180	1.9		
GRP71929	04	1835>9	1855+3 1905+2	1923	N07	W15	.342	15802	3.6	48	-N				190	2.0		
RAMY	04	1835	1905	1927	N06	W16	.344	15802	3.6	52	1B	3	C		201		F	
MCMA	04	1842	1855	1925D	N08	W15	.352	15802	3.7	43D	-N		C	1855	110	1.2	E	
BIGB	04	1847	1907	1921	N10	W15	.375	15802	3.7	34	-N	3	C	1907	180	1.9	E	
HOLL	04	1849	1858	1920	N06	W16	.344	15802	3.6	31	-B	3	C		47		FDE	
GRP71930	04	1857+2	1903+0	1930	N13	W09	.362	15802	4.1	33	-N				50	.5		
RAMY	04	1857	1903	1931	N13	W09	.362	15802	4.1	34	-N	3	C		55			
HOLL	04	1859	1903	1928	N13	W09	.362	15802	4.1	29	-N	3	C		42			
GRP71931	04	2120+2	2123+1	2129	S20	E54	.810	15808	8.9	9	-N				60	1.1	E	
BIGB	04	2120	2123	2133	S19	E55	.819	15808	9.0	13	-N	3	C	2123	65	1.8	E	
RAMY	04	2121	2123	2129	S20	E54	.810	15808	8.9	8	-N	2	C		46			
HOLL	04	2122	2124	2126	S20	E53	.801	15808	8.9	4	-N	3	C		55			
932 HOLL	04	2150E	2151	2156	N04	W18	.353	15802	3.6	6D	-N	2	C		37		F	Y5
933 BIGB	04	2255	2257	2313	S26	E90	.999	15815	11.7	18	-N	3	C	2257	30			Y5
GRP71934	04	2301+2	2304+5	2321	N16	W25	.548	15796	3.1	20	-N				30	.4		
BIGB	04	2301	2309	2318	N16	W26	.559	15796	3.0	17	-N	3	C	2309	30	3.0		
HOLL	04	2303	2304	2323	N17	W24	.547	15796	3.2	20	-N	2	C		26			
935 PALE	05	0124E	0125	0200	N07	W20	.406	15802	3.6	36D	-B	3	C		141		FDE	Y5
936 PALE	05	0204	0206	0224	N07	W20	.406	15802	3.6	20	-N	3	C		32		DE	Y5
GRP71937	05	0556	0558 0559	0621	S12	00	.099	15804	5.2	25	-F						J	
ABST	05	0556	0559	0621	S12	W02	.105	15804	5.1	25	-F		C	0559	131	1.4	DJ	
ABST	05	0556	0558	0620	S12	E02	.105	15804	5.4	24	-F		C	0558	87	.9	DJ	
938 ABST	05	0609	0611	0616	N13	E24	.510	15805	7.1	7	-F		C	0611	87	1.0	DG	Y5
939 ABST	05	0634	0639	0725	S21	E49	.762	15808	8.9	51	2B		C	0639	340	5.3	EJ	Y5
GRP71940	05	0739	0753	0803D	S12	00	.099	15804	5.3	24	-F						J	
ABST	05	0739	0753	0803D	S12	W02	.105	15804	5.2	24D	-F		P	0753	96	1.0	DJ	
ABST	05	0744	0753	0803D	S13	E01	.118	15804	5.4	19D	-F		P	0753	70	.7	DJ	
941 ABST	05	0859	0901	0903D	N21	W29	.635	15796	3.2	4D	-F		P	0901	96	1.3	D	Y5
	05	1100	1110	NO FLARE PATROL														
	05	0007	0123	NO FLARE PATROL														
942 KHAR	05	1110E		1130D	S12	W04	.121	15804	5.2	20D	1F		P	1114	230	2.3	BEL	Y5
GRP71943	05	1149E	1151+4	1211	S20	E46	.727	15808	8.9	22	-B				100	1.5		
KHAR	05	1149E	1151	1208D	S21	E47	.740	15808	9.0	19D	-B		P	1153	110	1.5	D	
RAMY	05	1153E	1155U	1211	S20	E46	.727	15808	8.9	18D	-B	3	C		95		F	
944 RAMY	05	1228	1228	1233	S20	E46	.727	15808	9.0	5	-N	3	C		42		F	Y5
945 RAMY	05	1237	1238	1246	S20	E45	.727	15808	9.0	9	-B	3	C		37		F	Y5
946 RAMY	05	1505	1506	1513	S14	W06	.169	15804	5.2	8	-B	3	C		32			Y5
947 RAMY	05	1610	1612	1618	S20	E44	.705	15808	9.0	8	-B	3	C		32			Y5
GRP71948	05	1640+1	1642+1	1654	N07	W34	.594	15802	3.1	14	-B				40	.5	DH	
MCMA	05	1640	1642	1654	N07	W34	.594	15802	3.1	14	-B		C	1642	40	.5	DH	
RAMY	05	1641	1643	1649	N06	W28	.508	15802	3.6	8	-B	3	C		42			
HUAN	05	1650E		1656	N07	W34	.594	15802	3.2	6D	-F		P	1651	15	.2	D	
949 RAMY	05	1701	1704	1708	N14	E46	.765	15807	9.2	7	-N	3	C		26			Y5
950 RAMY	05	1725	1727	1731	N14	E45	.755	15807	9.1	6	-N	3	C		24			Y5
951 RAMY	05	1731	1732	1735	N14	E45	.755	15807	9.1	4	-N	3	C		22			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
952 HUAN	05	1742	1743	1746	N07	W35	.607	15802	3.1	4	-N		C	1743	25	.3	D	Y5
GRP71953	05	1907+1	1910+0	1913	N07	W35	.607	15802	3.2	6	-B				50	.6	DH	
BIGB	05	1907	1910	1913	N07	W35	.607	15802	3.2	6	-N	3	C	1910	65	.8		
RAMY	05	1908	1910	1913	N06	W30	.535	15802	3.5	5	-B	3	C		38			
MCMA	05	1908	1910	1925	N07	W35	.607	15802	3.2	17	-B		C	1910	30	.4	DH	
954 RAMY	05	2047	2047	2054	N06	W31	.549	15802	3.5	7	-N	3	C		23			Y5
955 RAMY	05	2103	2104	2110	S20	E41	.670	15808	9.0	7	-N	2	C		20			Y5
GRP71956	05	2107+0	2110+0	2118	N07	W30	.541	15802	3.6	11	-N				50	.6	E	
BIGB	05	2107	2110	2117	N09	W29	.540	15802	3.7	10	-N	1	C	2110	60	.9	E	
RAMY	05	2107	2110	2119	N06	W31	.549	15802	3.6	12	-B	2	C		54			
GRP71957	05	2115+4	2121+0	2149	S18	E43	.689	15808	9.1	34	1B							
RAMY	05	2115	2121	2123D	S20	E41	.670	15808	9.0	8D	1B	2	C		437		FDE	
BIGB	05	2119	2121	2149	S19	E42	.679	15808	9.0	30	1B	1	C	2121	180	2.5		
BIGB	05	2119	2121	2123	S15	E47	.730	15808	9.4	4	-N	1	C	2121	130	2.0	E	
958 BIGB	05	2149	2152	2159	S23	E45	.724	15808	9.3	10	-N	1	C	2152	100	1.5	E	Y5
959 BIGB	05	2236	2252	2315	N16	E45	.764	15807	9.3	39	-N	1	C	2252	70	1.0	E	Y5
960 BIGB	05	2302	2347	2347D	S19	E56	.828	15812	10.2	45D	-N	2	P	2347	50	.9		Y5
GRP71961	05	2306	2307	2315	S22	E44	.710	15808	9.3	9	-N				45	.7		
BIGB	05	2306	2307	2312	S23	E44	.713	15808	9.3	6	-N	2	C	2307	50	1.0		
MANI	05	2308E	2308U	2317D	S22	E44	.710	15808	9.3	9D	-N	2	C		40			
	06	0127	0128	NO FLARE PATROL														
962 MITK	06	0435	0503	0543	N17	E37	.687	15807	9.0	68	1N		C	0503	270	3.7	E	Y5
963 MANI	06	0638E	0639	0644	N08	W41	.686	15802	3.2	6D	-N	3	C		15			Y5
GRP71964	06	0800E	0805	0830	S18	E32	.549	15808	8.7	30	-F							
MONT	06	0800E	0805	0826	S19	E35	.592	15808	9.0	26D	-F		C	0805	70		D	
HTPR	06	0812E		0833	S18	E30	.522	15808	8.6	21D	-F		C	0815	50	.7	E	
965 MONT	06	0822	0825	0858	N06	W34	.589	15802	3.8	36	-F		C	0825	70		D	Y5
GRP71966	06	0915+2	0917+1	0923	N07	W36	.620	15802	3.7	8	-N						E	
HTPR	06	0915	0917	0923	N08	W39	.662	15802	3.5	8	-N		C	0917	60	.8	E	
MONT	06	0917	0918	0923	N06	W34	.589	15802	3.8	6	-N		C	0918	200			
967 RAMY	06	1156	1238	1243	S20	E34	.584	15808	9.0	47	-N	3	C		28			Y5
GRP71968	06	1255+0	1301+0	1306	N07	W43	.706	15802	3.3	11	-B				50	.7	H	
HTPR	06	1255	1301	1305	N08	W47	.755	15802	3.0	10	-N		C	1301	30	.4		
RAMY	06	1255	1301	1306	N06	W40	.666	15802	3.5	11	-B	3	C		71		H	
KANZ	06	1256E		1307	N07	W43	.706	15802	3.3	11D	-B	2					H	
GRP71969	06	1347+1	1347+1	1355	S14	W18	.330	15804	5.2	8	-F							
RAMY	06	1347	1347	1352	S14	W18	.330	15804	5.2	5	-N	3	C		20			
KANZ	06	1348	1348	1357	S14	W18	.330	15804	5.2	9	-F	2						
GRP71970	06	1348+0	1349+4	1406	S23	E34	.598	15808	9.1	18	-B				150	1.9		
KANZ	06	1348	1351	1406	S23	E34	.598	15808	9.1	18	1B	2						
HTPR	06	1348	1349	1407	S24	E36	.626	15808	9.3	19	-B		C	1349	160	1.9	EF	
RAMY	06	1348	1353	1406	S20	E33	.571	15808	9.1	18	-B	3	C		139			
971 RAMY	06	1432	1432	1459	S20	E33	.571	15808	9.1	27	-N	3	C		31			Y5
GRP71972	06	1432+2	1434+3	1457	N15	E32	.619	15807	9.0	25	-B				50	.6	E	
RAMY	06	1432	1434	1457	N15	E34	.641	15807	9.2	25	-B	3	C		48			
HTPR	06	1434	1437	1458	N16	E31	.615	15807	8.9	24	-N		C	1437	60	.7	E	
KANZ	06	1438E		1454	N14	E32	.612	15807	9.0	16D	-B	2						
973 RAMY	06	1508	1509	1522	S20	E33	.571	15808	9.1	14	-N	3	C		20			Y5
974 RAMY	06	1525	1528	1540	S20	E32	.558	15808	9.0	15	-N	3	C		52			Y5
975 RAMY	06	1544	1548	1550	S20	E32	.558	15808	9.1	6	-N	3	C		23			Y5
976 RAMY	06	1605	1605	1613	N13	W34	.628	15802	4.1	8	-N	3	C		26			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	
977 RAMY	06	1605	1620	1635	N06	W41	.679	15802	3.6	30	?B	3	C		472		F H Y5
	IMP.2 NO I BIGB																
978 BIGB	06	1753	1755	1755D	S24	E34	.603	15808	9.3	2D	-N	2	P	1755	20	.2	Y5
979 RAMY	06	1810E	1812	1819	S20	E30	.532	15808	9.0	9D	-N	3	C		39		Y5
980 RAMY	06	1815	1817	1827	S20	E44	.705	15812	10.1	12	-F	3	C		20		Y5
981 BIGB	06	2005	2007	2035	S16	E29	.500	15808	9.0	30	-N	3	C	2007	120	1.4	Y5
982 RAMY	06	2012E	2012U	2014D	N14	E28	.566	15807	8.9	2D	-N	2	C		43		F Y5
983 BIGB	06	2037	2043	2050	S19	E90	.999	15813	13.6	13	-N	3	C	2043	120	1.4	Y5
GRP71984	06	2037>9	2101+7	2156	N12	E29	.562	15807	9.0	79	1N				230	2.8	
BIGB	06	2037		2156	N12	E27	.538	15807	8.9	79	1N	*	P	2102	240	2.8	
BIGB	06	2056	2108	2147	N12	E34	.622	15807	9.4	51	-N	*	C	2108	60	.7	
PALE	06	2059E	2101	2130D	N14	E31	.600	15807	9.2	31D	1B	*	C		217		DE
CULG	06	2102E	2104U	2248	N12	E28	.550	15807	9.0	1060	1N	*	P	2104	260	3.1	B
985 BIGB	06	2048	2058	2104	S27	E72	.946	15815	12.3	16	-N	2	P	2058	50		Y5
986 BIGB	06	2049	2050	2104	S17	W16	.324	15804	5.7	15	-N	2	C	2050	120	1.3	Y5
987 CULG	06	2102E	2127U	2137D	S19	E28	.501	15808	9.0	35D	-F		P	2127	100	1.2	Y5
988 BIGB	06	2258	2306	2320	S20	E30	.532	15808	9.2	22	-N	2	C	2306	40	.5	Y5
GRP71989	06	2329+1	2330+2	2336	S18	E40	.652	15812	10.0	7	-F				40	.5	D
CULG	06	2329	2332	2337	S19	E42	.679	15812	10.1	8	-F		C	2332	30	.4	
VORO	06	2330	2330	2335	S18	E39	.640	15812	9.9	5	-N		C	2330	45	.6	D
GRP71990	06	2334+0	2335+0	2339	N07	W52	.805	15802	3.1	5	-F						DH
CULG	06	2334	2335	2340	N08	W52	.807	15802	3.1	6	-F		C	2335	10	.2	
VORO	06	2334	2335	2337	N07	W52	.805	15802	3.1	3	-F		C	2335	45	.7	DH
991 VORO	07	0007	0008	0010	N07	W52	.805	15802	3.1	3	-F		C	0008	27	.4	DH Y5
GRP71992	07	0010+1	0011+0	0016	S22	E29	.530	15808	9.2	6	-F				30	.4	D
CULG	07	0010	0011	0018	S22	E30	.543	15808	9.3	8	-F		C	0011	20	.2	T
VORO	07	0011	0011	0014	S22	E29	.530	15808	9.2	3	-N		C	0011	36	.4	D
GRP71993	07	0020>9	0038+0	0044	N08	W52	.807	15802	3.1	24	-N				35	.6	DH
CULG	07	0020	0038	0045	N09	W52	.810	15802	3.1	25	-N		C	0038	20	.3	T
VORO	07	0037	0038	0042	N07	W52	.805	15802	3.1	5	-N		C	0038	54	.9	DH
994 CULG	07	0057	0100	0131	N09	W53	.819	15802	3.1	34	-N		C	0100	10	.2	T Y5
995 CULG	07	0207	0213	0229	S16	W29	.500	15804	4.9	22	-F		C	0213	40	.5	Y5
996 CULG	07	0208	0211	0218	N09	W53	.819	15802	3.1	10	-F		C	0211	20	.4	T Y5
GRP71997	07	0344+7	0354+1	0416	S19	E27	.487	15808	9.2	32	1N						HL
CULG	07	0344	0355	0416	S20	E25	.467	15808	9.0	32	1N		C	0355	240	2.7	LT
MITK	07	0351	0354	0417	S19	E28	.500	15808	9.3	26	1F		C	0354	410	4.9	EH
MANI	07	0352E	0355	0406	S19	E27	.487	15808	9.2	140	-B	2	C		120		F
998 CATA	07	1010	1010	1015	S17	E75	.960	15813	13.0	5	1N	2	C	1010	84		Y5
	07	1035	1055	NO FLARE PATROL													
	07	1110	1118	NO FLARE PATROL													
999 CATA	07	1110	1118	1122D	S21	E22	.435	15808	9.1	12D	1B	1	P	1118	393	4.5	Y5
	07	1122	1148	NO FLARE PATROL													
	07	0915	0935	NO FLARE PATROL													
	07	0940	0955	NO FLARE PATROL													
0 RAMY	07	1149E	1149U	1155	N35	E09	.673	15806	8.2	6D	-N	2	C		22		Y5
1 RAMY	07	1158	1159U	1225	N07	W53	.815	15802	3.5	27	-N	3	C		34		Y5
2 RAMY	07	1204	1204	1214	S22	E68	.922	15813	12.6	10	-N	3	C		26		Y5
3 RAMY	07	1250	1253	1300	S22	E67	.916	15813	12.6	10	-N	3	C		36		Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72004	07	1707+1	1709+1	1721	S20	E33	.570	15812	10.2	14	-N				80	1.0		
BIGB	07	1707	1709	1725	S20	E35	.596	15812	10.3	18	-N	1	C	1709	75	.9		
RAMY	07	1708	1710	1717	S20	E32	.558	15812	10.1	9	-B	2	C		85			
5 BIGB	07	1804	1812	1830	S18	E74	.955	15813	13.3	26	?N	1	C	1812	150			Y5
	IMP.1 NO 1 RAMY HOLL																	
6 HOLL	07	1843	1843	1848	N14	E19	.466	15807	9.2	5	-N	3	C		21			Y5
7 BIGB	07	1859	1902	1910	N14	W56	.859	15802	3.6	11	-N	3	C	1902	50	.9		Y5
8 HOLL	07	1900	1905	1909	S20	E18	.377	15808	9.1	9	-N	3	C		55		F	Y5
9 CULG	07	2030E	2030E	2039	N07	W65	.915	15802	3.0	9D	-F		C	2030	20	.5	B	Y5
10 BIGB	07	2058	2100	2111	N09	E31	.567		10.2	13	-N	2	C	2100	50	.9	G	Y5
GRP72011	07	2130+5	2146 2158	2236	S22	E16	.374	15808	9.1	66	-F						E	
CULG	07	2130	2146U	2228	S20	E16	.352	15808	9.1	58	-F		P	2146	90	1.0		
BIGB	07	2135	2158	2244	S24	E17	.407	15808	9.2	69	-N	1	C	2158	70	.8	E	
GRP72012	07	2210	2245 2255	2333	N12	E17	.423	15807	9.2	83	-N						K	
BIGB	07	2210	2255	2337	N13	E18	.445	15807	9.3	87	-N	1	C	2255	150	1.6		
CULG	07	2216E	2245	2329	N12	E17	.423	15807	9.2	73D	-N		C	2245	170	1.9	K	
GRP72013	08	0027+2	0030+3	0040D	N09	W68	.937	15802	2.9	13	-N				50		EH	
CULG	08	0027	0030	0117	N09	W68	.937	15802	2.9	50	-B		C	0030	40			
VORO	08	0028	0033	0040	N06	W70	.945	15802	2.8	12	-N		C	0033	81		EH	
BIGB	08	0029	0031	0031D	N10	W70	.949	15802	2.8	2D	-N	2	P	0031	40	.6		
14 VORO	08	0108	0110	0119	S15	E60	.861	15813	12.5	11	-F		C	0110	54	1.0	D	Y5
GRP72015	08	0132+1	0135+2	0146	N14	E12	.402	15807	9.0	14	-N				110	1.2	E	
CULG	08	0132	0137	0148	N13	E12	.388	15807	9.0	16	-N		C	0137	90	1.0		
VORO	08	0133	0135	0144	N15	E12	.415	15807	9.0	11	-N		C	0135	134	1.4	E	
GRP72016	08	0201+4	0208+1 0300	0332	S20	E15	.340	15808	9.2	91	1N				360	3.8	EHJK	
KODA	08	0123	0300	0301	S21	E16	.362	15808	9.3	98	2N	*	P	0223	937	9.6	CE	
CULG	08	0201	0209	0414	S20	E13	.317	15808	9.1	133	1N	*	C	0209	280	2.9	KF	
VORO	08	0202	0208	0315D	S22	E14	.352	15808	9.1	73D	1B	*	C	0208	403	4.3	EHJK	
MANI	08	0205	0208	0347D	S18	E14	.307	15808	9.1	102D	1B	*	C		380		FDE	
MITK	08	0210E		0335	S19	E19	.380	15808	9.5	85D	1N	*	C	0210	390	4.3	E	
17 CULG	08	0312	0316	0326	N12	E12	.374	15807	9.0	14	-F		C	0316	40	.4		Y5
GRP72018	08	0404+5	0411+0	0443	N16	E10	.416	15807	8.9	39	-N							
CULG	08	0404	0411	0439	N16	E12	.429	15807	9.1	35	-N		C	0411	120	1.3	F	
MITK	08	0409	0411	0446	N16	E09	.409	15807	8.8	37	-N		C	0411			E	
19 CULG	08	0557	0606	0612	N08	W71	.952	15802	2.3	15	-N		C	0606	20			Y5
20 CULG	08	0613	0627	0635D	S18	E48	.745		11.3	22D	1F		P	0627	210	3.1		Y5
21 CULG	08	0624	0635U	0635D	N12	E16	.413	15807	9.5	11D	-N		P	0635	50	.6		Y5
	08	0635	0712	NO FLARE PATROL														
GRP72022	08	0712E	0712	0842	N12	E15	.403	15807	9.4	90	2N						E	
KODA	08	0712E	0712	0758D	N14	E13	.410	15807	9.3	46D	2N		P	0712	479	4.9	DE	
HTPR	08	0742E		0835	N12	E15	.403	15807	9.4	53D	-N		C	0745	70	.7	E	
HONT	08	0800E	0800	0848	N12	E15	.403	15807	9.5	48D	-N		C	0800	220			
GRP72023	08	0837+1	0845	0901	N17	E08	.419	15807	9.0	24	-F						E	
HTPR	08	0837		0840D	N18	E09	.439	15807	9.0	3D	-F		C	0839	10	.1		
HONT	08	0838	0845	0901	N16	E08	.404	15807	9.0	23	-F		C	0845	50		E	
GRP72024	08	0932	0935	0943	N27	W76	.987	15796	2.7	11	-F						D	
HONT	08	0932	0935	0941	N26	W74	.980	15796	2.8	9	-F		C	0935	40		D	
KHAR	08	0937E		0945D	N28	W79	.993	15796	2.5	8D	-N		P	0937	100		DT	
25 KHAR	08	1105E		1108D	N28	W79	.993	15796	2.5	3D	-F		V	1105			DT	Y5
26 KHAR	08	1115E		1120D	N28	W79	.993	15796	2.5	5D	-F		V	1115			DT	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.		
27 KHAR	08	1128E	1130	1136D	N13	W58	.873	15802	4.1	8D	?F		P	1132	120	2.6	D	Y5
	IMP.1 NO : MONT HTPR																	
28 KHAR	08	1153E	1155	1200D	N16	E15	.453	15807	9.6	7D	?F		P	1155	330	3.7	EL	Y5
	IMP.1 NO : RAMY																	
GRP72029	08	1405+8	1414+2	1436	N11	E03	.304	15807	8.8	31	-B				80	.8		
MCMA	08	1405	1416	1438	N11	E03	.304	15807	8.8	33	-B		C	1416	100	1.1	E	
RAMY	08	1413	1414	1434	N11	E04	.308	15807	8.9	21	-B	3	C		72		F	
GRP72030	08	1410>9	1423	1451	S18	E57	.835	15813	12.9	41	-B						V	
			1430															
MCMA	08	1410	1430	1455	S18	E58	.844	15813	12.9	45	-B		C	1430	70	1.5	EV	
RAMY	08	1421	1423	1447	S18	E57	.835	15813	12.9	26	-B	3	C		62		F	
GRP72031	08	1446+2	1448+1	1506	S18	E05	.217	15808	9.0	20	-B				120	1.2		
MCMA	08	1446	1449	1510D	S18	E04	.211	15808	8.9	24D	-B		C	1449	125	1.3	E	
RAMY	08	1448	1448	1502	S19	E07	.246	15808	9.1	14	-B	3	C		119		F	
GRP72032	08	1458+7	1506	1616	N14	W61	.898	15802	4.0	78	1B						FLUVH	
			1524															
MCMA	08	1458	1530	1630D	N17	W63	.917	15802	3.9	92D	1B		C	1530	150	3.6	FLWV	
RAMY	08	1505	1506	1509	N12	W59	.879	15802	4.2	4	-N	3	C		16			
RAMY	08	1518	1524	1602	N12	W59	.879	15802	4.2	44	1B	3	C		241		U F	
GRP72033	08	1621+1	1621+4	1633	N14	E09	.380	15807	9.4	12	-F				25	.3		
RAMY	08	1621	1621	1632	N13	E06	.348	15807	9.1	11	-N	3	C		28		F	
HUAN	08	1622	1625	1633	N15	E13	.423	15807	9.7	11	-F		C	1625	20	.2	D	
34 HUAN	08	1638	1641	1646	S18	E58	.844	15813	13.0	8	-F		C	1641	25	.4	D	Y5
GRP72035	08	1646+2	1650+3	1701	S16	W82	.986	15814	2.5	15	-F						E	
MCMA	08	1646E	1650	1703D	S16	W79	.977	15814	2.8	17D	-N		C	1650			E	
HUAN	08	1648	1653	1658	S17	W85	.993	15814	2.3	10	-F		C	1653	30			
GRP72036	08	1818		1848	N14	W70	.953	15802	3.5	30	-F						D	
HUAN	08	1818		1853	N13	W70	.952	15802	3.5	35	-F		C	1827	15		D	
MCMA	08	1838E		1843	N15	W70	.954	15802	3.5	5D	-N		C	1838			D	
37 BIGB	08	1905	1938	1948	S36	E74	.958	15816	14.3	43	-N	2	C	1938	40			Y5
38 BIGB	08	1955	2018	2032	S35	E73	.953	15816	14.3	37	-N	3	P	2018	5D		E	Y5
39 BIGB	08	2007	2054	2105	N24	W84	.999	15796	2.5	58	-N	3	C	2054	50	.5		Y5
40 BIGB	08	2040	2105	2142	S36	E72	.949	15816	14.3	62	-N	3	P	2105	60		E	Y5
41 BIGB	08	2057	2058	2059	S19	E18	.367	15812	10.2	2	-N	3	C	2058	10	.1	D	Y5
42 BIGB	08	2111	2132	2137	N26	W88	1.000	15796	2.3	26	-N	3	P	2132	50	.6	A	Y5
43 BIGB	08	2112	2132	2202	N13	E04	.340	15807	9.2	50	-N	3	C	2132	100	1.0		Y5
GRP72044	08	2113+3	2115+1	2121	S19	E15	.329	15812	10.0	8	-N				60	.6	F	
BIGB	08	2113	2115	2135	S19	E16	.342	15812	10.1	22	-N	3	C	2115	80	.9		
RAMY	08	2115	2115	2117D	S19	E15	.329	15812	10.0	2D	-N	2	C		55		F	
HOLL	08	2116	2116	2121	S19	E15	.329	15812	10.0	5	-N	3	C		47			
CULG	08	2117E	2117E	2121	S19	E16	.342	15812	10.1	4D	-F		P	2117	60	.7		
45 BIGB	08	2159	2214	2214D	S36	E72	.949	15816	14.3	15D	-N	3	C	2214	70		E	Y5
GRP72046	08	2220>9	2253	2321	N13	E04	.340	15807	9.2	61	-N							
			2318															
BIGB	08	2220	2318	2330	N14	E05	.359	15807	9.3	7D	1N	3	C	2318	300	3.1		
CULG	08	2248	2253	2312	N12	E03	.321	15807	9.2	24	-N		C	2253	50	.5		
47 BIGB	08	2238	2243	2251	S28	E49	.778	15815	12.6	13	-N	3	C	2243	40	.6	E	Y5
48 CULG	08	2334	2336	2343	N15	W72	.964	15802	3.6	9	-N		C	2336	20			Y5
GRP72049	08	2345+2	2348+0	2358	S21	E57	.838	15813	13.3	13	-F				60	1.1	E	
CULG	08	2345	2348	0000	S22	E58	.848	15813	13.3	15	-F		C	2348	60	1.1		
BIGB	08	2347	2348	2355	S20	E57	.837	15813	13.3	8	-N	3	C	2348	70	1.1	E	
50 CULG	08	2354	2356	0111	N15	W72	.964	15802	3.6	77	-N		C	2356	30			Y5
51 CULG	09	0019	0025	0047	N20	E01	.447	15807	9.1	28	-F		C	0025	60	.7		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
52 CULG	09	0225	0230	0301	S11	W53	.793	15904	5.1	36	-N		C	0230	50	.9		Y5
53 CULG	09	0312	0324	0356	S17	E00	.182	15808	9.1	44	-F		C	0324	60	.6		Y5
54 CULG	09	0515E	0530U	0601	N11	W02	.303	15807	9.1	46D	-F		P	0530	70	.8		Y5
55 CULG	09	0622E	0631U	0634D	S22	E56	.830	15813	13.5	12D	-F		P	0631	40	.7		Y5
56 MANI	09	0639E	0642	0646D	S20	E00	.233	15808	9.3	7D	-N	3	C		100		F	Y5
57 MANI	09	0750	0757	0807D	N15	W04	.373	15807	9.0	17D	1B	2	C		300		F	Y5
58 CATA	09	0810E	0810	0840D	N11	W05	.313	15807	9.0	30D	2B	2	P	0810	618	6.7		Y5
59 CATA	09	0825	0825	0830	N05	W90	1.000	15802	2.6	5	1F	2	C	0825	56			Y5
	09	1000	1010	NO FLARE PATROL														
	09	1020	1104	NO FLARE PATROL														
	09	0646	0700	NO FLARE PATROL														
	09	0728	0736	NO FLARE PATROL														
	09	0843	0850	NO FLARE PATROL														
GRP72060	09	1234	1235 1256	1314	N13	W08	.360	15807	8.9	40	-B						F	
RAMY	09	1234	1235	1314	N13	W08	.360	15807	8.9	40	-N	3	C		42		F	
RAMY	09	1234	1256	1314	N13	W08	.360	15807	8.9	40	-B	3	C		94		F	
61 RAMY	09	1249	1250	1311	S19	E06	.238	15812	10.0	22	-B	3	C		46		F	Y5
62 RAMY	09	1339	1344	1427	N15	W07	.385	15807	9.0	48	-B	3	C		95		F	Y5
63 RAMY	09	1443	1444	1452	N15	W07	.385	15807	9.1	9	-B	3	C		30		F	Y5
GRP72064	09	1542>9	1546 1555+0	1604	N14	W09	.381	15807	9.0	22	-B				100	1.1	F	
RAMY	09	1542	1555	1603	N15	W08	.390	15807	9.1	21	-B	3	C		115		F	
RAMY	09	1542	1546	1603	N15	W08	.390	15807	9.1	21	-N	3	C		40		F	
HOLL	09	1554	1555	1604	N14	W10	.388	15807	8.9	10	-B	3	C		75		F	
GRP72065	09	1618+1	1619+1	1640	N14	W10	.388	15807	8.9	22	-B				80	.9		
BIGB	09	1618	1620	1633	N14	W17	.447	15807	8.4	15	-N	1	C	1620	60	.6	E	
RAMY	09	1619	1620	1640	N13	W07	.354	15807	9.2	21	-B	3	C		80		DE	
HOLL	09	1619	1619	1640D	N14	W10	.388	15807	8.9	21D	-B	3	C		89		F	
GRP72066	09	1621+1	1623+1	1631	S19	W07	.245	15808	9.2	10	-B				35	.4	F	
RAMY	09	1621	1624	1627	S19	W07	.245	15808	9.2	6	-B	3	C		36		F	
HOLL	09	1622	1623	1634	S19	W07	.245	15808	9.2	12	-B	3	C		34		F	
GRP72067	09	1711+8	1723 1732+1	1740	N13	W09	.366	15807	9.0	29	-B				45	.5	F	
HOLL	09	1711	1732	1743	N14	W11	.395	15807	8.9	32	-B	3	C		64		F	
RAMY	09	1719	1723	1725	N13	W08	.360	15807	9.1	6	-B	3	C		47			
RAMY	09	1726	1733	1737	N13	W08	.360	15807	9.1	11	-B	3	C		34			
GRP72068	09	1727+1	1729+2	1741	S19	W08	.254	15808	9.1	14	-B				100	1.0	F	
BIGB	09	1727	1729	1741	S20	W10	.286	15808	9.0	14	-N	1	C	1729	120	1.3		
HOLL	09	1728	1731	1743	S19	W08	.254	15808	9.1	15	-B	3	C		100		F	
RAMY	09	1728	1730	1741	S19	W08	.254	15808	9.1	13	-B	3	C		94			
GRP72069	09	1845+1	1846+0	1853	S19	W11	.283	15808	9.0	8	-N				60	.6	E	
HUAN	09	1845	1846	1853	S19	W12	.294	15808	8.9	8	-N		C	1846	65	.7	E	
BIGB	09	1845	1846	1852	S21	W11	.308	15808	9.0	7	-N	2	C	1846	60	.6		
RAMY	09	1846	1846	1855	S19	W09	.263	15808	9.1	9	-N	3	C		24			
70 BIGB	09	1852	1929	1942	S36	E60	.883	15816	14.3	50	-N	1	C	1929	50	1.0		Y5
71 BIGB	09	1900	1918	1918D	S24	E72	.945	15818	15.2	18D	-N	2	P	1918	15		D	Y5
GRP72072	09	1902+3	1908 1932	1945D	N13	W09	.366	15807	9.1	43	-N						K	
HOLL	09	1902	1908	2246D	N14	W13	.411	15807	8.8	224D	-N	3	C		142		F	
MCMA	09	1905		1945D	N13	W10	.373	15807	9.0	40D	-N		C	1930	120	1.4	EK	
HUAN	09	1917E		1928D	N13	W07	.354	15807	9.3	11D	-F		P	1927	25	.3	CD	
RAMY	09	1928	1932	1940	N13	W09	.366	15807	9.1	12	-B	3	C		71			
RAMY	09	1942	1942	1945	N13	W09	.366	15807	9.1	3	-N	3	C		22			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg	
GRP72073	09	1919+1	1920	1925	S19	E02	.218	15812	10.0	6	-F				40	.4	D
HUAN	09	1919		1928D	S19	E02	.218	15812	10.0	90	-F		P	1922	25	.3	D
RAMY	09	1920	1920	1922	S20	E03	.238	15812	10.0	2	-N	3	C		46		
74 RAMY	09	1951	1951	2002	N13	W09	.366	15807	9.2	11	-N	3	C		31		Y5
75 RAMY	09	2016	2022	2024	N13	W10	.373	15807	9.1	8	-B	2	C		23		Y5
76 RAMY	09	2032	2032	2038	N13	W10	.373	15807	9.1	6	-B	2	C		23		F Y5
GRP72077	09	2053+1	2100 2107	2118	N13	W08	.360	15807	9.3	25	-F						
CULG	09	2053	2100	2118D	N13	W08	.360	15807	9.3	250	-F	*	C	2100	50	.5	
BIGB	09	2054	2107	2118	N13	W09	.366	15807	9.2	24	-N	*	C	2107	70	.7	
GRP72078	09	2138+8	2202+3 2210	2229	N17	W09	.425	15807	9.2	51	-F				60	.7	
BIGB	09	2138	2210	2231	N16	W15	.454	15807	8.8	53	-F	*	C	2210	80	.9	
CULG	09	2146	2202	2227	N17	W05	.407	15807	9.5	41	-F	*	C	2202	40	.4	
BIGB	09	2200	2205	2217	N17	W13	.451	15807	8.9	17	-F	*	C	2205	70	.7	
GRP72079	09	2235+0	2237+0	2240D	N18	W15	.479	15807	8.8	5	-F				50	.6	L
BIGB	09	2235	2237	2240	N18	W14	.472	15807	8.9	5	-F	*	C	2237	60	.6	
CULG	09	2235	2237	2312U	N19	W17	.508	15807	8.7	370	-F	*	C	2237	50	.6	L
80 HOLL	09	2323	2323	2334	N14	W14	.419	15807	8.9	11	-N	3	C		52		Y5
81 CULG	10	0237	0239	0249	S12	W70	.934	15804	4.9	12	-F		C	0239	20		Y5
82 CULG	10	0309	0314	0335	N15	W90	1.000	15802	3.4	26	-F		C	0314	30		Y5
83 CULG	10	0317	0322	0337	N18	W11	.452	15807	9.3	20	-F		C	0322	40	.4	T Y5
84 CULG	10	0337	0340	0347	S24	E55	.824	15818	14.3	10	-F		C	0340	20	.3	Y5
85 CULG	10	0410	0413	0420	S24	E55	.824	15818	14.3	10	-N		C	0413	60	1.0	Y5
86 CULG	10	0411	0437	0454	N13	W15	.416	15807	9.0	43	-F		C	0437	30	.3	T Y5
87 CULG	10	0431	0432	0442	S11	W68	.922	15804	5.1	11	-N		C	0432	60	1.5	Y5
88 CULG	10	0551E	0556	0604	S23	E54	.813	15818	14.3	130	-F		C	0556	40	.7	Y5
89 CULG	10	0552	0606	0708U	N18	W10	.446	15807	9.5	760	-F		C	0606	70	.8	T Y5
90 CULG	10	0802E	0804U	0820	N16	W16	.463	15807	9.1	180	1N		P	0804	230	2.9	FT Y5
91 HTPR	10	0955	0959	1005	N15	W17	.460	15807	9.1	10	-F		C	0959	20	.2	E Y5
	10	1055	1100	NO FLARE PATROL													
	10	0525	0529	NO FLARE PATROL													
	10	0612	0619	NO FLARE PATROL													
	10	0746	0802	NO FLARE PATROL													
GRP72092	10	1154+0	1154+6	1212	S21	W16	.361	15808	9.3	18	-N						
LVOV	10	1154	1200	1219	S24	W14	.375	15808	9.4	25	1N		C	1200	200	2.2	E
RAMY	10	1154	1154	1205	S19	W18	.366	15808	9.1	11	-N	3	C		32		F
93 RAMY	10	1155	1210	1223	S36	E49	.804	15816	14.2	28	-N	3	C		21		F Y5
GRP72094	10	1238+3	1249+3	1340	N16	W19	.491	15807	9.1	62	1N						J
LVOV	10	1238	1252	1350	N16	W14	.446	15807	9.5	72	2F		C	1252	500	5.8	EJ
RAMY	10	1241	1249	1330	N13	W19	.457	15807	9.1	49	-B	3	C		140		DE F
HTPR	10	1258E		1321D	N19	W21	.543	15807	9.0	230	-N		C	1313	50	.5	EF
95 HTPR	10	1351	1351	1402	S20	E49	.759	15818	14.3	11	-N		C	1351	80	1.2	E Y5
GRP72096	10	1400>9	1432+1	1448	N15	W20	.489	15807	9.1	48	-N				35	.4	
MCMA	10	1400E		1500	N18	W17	.496	15807	9.3	600	-N		C	1405	70	.8	E
RAMY	10	1430	1432	1435	N13	W20	.468	15807	9.1	5	-B	3	C		40		F
MCMA	10	1430	1433	1442	N15	W22	.510	15807	9.0	12	-N		C	1433	30	.4	D
GRP72097	10	1607>9	1609 1658+4	1752	N13	W23	.501	15807	8.9	105	-B				60	.7	F
RAMY	10	1607	1609	1648	N13	W21	.479	15807	9.1	41	-B	*	C		84		
HOLL	10	1626	1658	1947	N13	W24	.513	15807	8.9	201	1B	*	C		302		F
BIGB	10	1654	1658	1752	N17	W23	.541	15807	9.0	58	-N	*	P	1658	50	.6	
RAMY	10	1656	1702	1719	N13	W21	.479	15807	9.1	23	-B	*	C		63		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72098	10	1630+1	1635	1638	S36	E44	.764	15816	14.0	8	-N				30	.5	E	
MCMA	10	1630E		1638D	S36	E41	.739	15816	13.8	8D	-F		C	1635	40	.6	E	
RAMY	10	1631	1635	1637	S36	E47	.788	15816	14.2	6	-B	3	C		22			
99 RAMY	10	1758	1759	1805	N13	W22	.490	15807	9.1	7	-B	*	C		37			Y5
100 BIGB	10	1800	1805	1812	S37	E39	.728	15816	13.7	12	-N	1	C	1805	20	.3		Y5
101 HOLL	10	1814	1814	1820	S21	W21	.421	15808	9.2	6	-N	3	C		24			Y5
GRP72102	10	1853+0	1855 1905	1911	N17	W24	.551	15807	9.0	18	-N						E	
BIGB	10	1853	1905	1912	N17	W24	.551	15807	9.0	19	-N	*	C	1905	30	.3	E	
MCMA	10	1853	1855	1910	N17	W24	.551	15807	9.0	17	-N	*	C	1855	50	.6	E	
GRP72103	10	2037+0	2038+1	2104	N13	W19	.457	15807	9.4	27	-N				90	1.0		
CULG	10	2037	2038U	2108	N14	W25	.533	15807	9.3	31	-N		P	2038	60	.7		
BIGB	10	2037	2039	2059	N13	W14	.407	15807	9.8	22	-N	2	C	2039	130	1.4		
GRP72104	10	2101+0	2103+0	2111	S37	E37	.712	15816	13.7	10	-F				30	.4		
CULG	10	2101	2103	2115	S37	E37	.712	15816	13.7	14	-F		C	2103	30	.4		
BIGB	10	2101	2103	2107	S37	E38	.720	15816	13.7	6	-N	3	C	2103	30	.3		
105 CULG	10	2256	2257	2305	N15	W21	.500	15807	9.4	9	-F		C	2257	20	.2		Y5
106 VORO	11	0009		0020	N18	W28	.602	15807	8.9	11	-N		C		143	1.8	E	Y5
107 VORO	11	0216	0219	0230	S17	W28	.489	15808	9.0	14	?N		C	0219	179	2.0	E	Y5
	IMP.1 NO : MITK																	
GRP72108	11	0308+3	0313+0	0326	N18	W31	.633	15807	8.8	18	-N						E	
CULG	11	0308	0313	0331	N19	W30	.631	15807	8.9	23	-F		C	0313	60	.8		
VORO	11	0310	0313	0324	N18	W31	.633	15807	8.8	14	-B		C	0313	152	1.9	E	
MITK	11	0311	0313	0326	N17	W31	.625	15807	8.8	15	-N		C	0313				
109 CULG	11	0400	0404	0426	N28	W14	.604		10.1	26	-F		C	0404	100	1.3		Y5
110 CULG	11	0431	0434	0446	S14	E19	.343	15813	12.6	15	-N		C	0434	40	.4		Y5
111 CULG	11	0433	0456	0511	S36	E34	.679	15816	13.7	38	-F		C	0456	30	.4		Y5
112 CULG	11	0545	0550	0605	S14	W32	.534	15808	8.8	20	-F		C	0550	80	.9		Y5
GRP72113	11	0600+1	0605+1	0635	S23	W26	.498	15808	9.3	35	-N							
CULG	11	0600	0605	0620D	S23	W27	.511	15808	9.2	20D	-N		C	0605	160	1.8		
MITK	11	0601	0606	0635	S24	W25	.494	15808	9.4	34	-N		C	0606				
114 MANI	11	0646E	0646U	0650D	N13	W28	.560	15807	9.2	4D	-N	3	C		15			Y5
115 CULG	11	0743E	0743E	0817	S20	E25	.465	15813	13.2	34D	-F		C	0744	30	.3		Y5
GRP72116	11	0804	0814+3	0835D	N14	W30	.591	15807	9.1	31	-N						F	
CULG	11	0804	0817	0820D	N14	W30	.591	15807	9.1	16D	-N		C	0817	80	1.0		
MANI	11	0813E	0814	0835D	N14	W31	.602	15807	9.0	22D	-N	3	C		30		F	
117 MANI	11	0857E	0857U	0908D	N15	W24	.532	15807	9.6	11D	-N	3	C		60		F	Y5
118 KHAR	11	0949E		1040D	N15	W27	.565	15807	9.4	51D	2F		P	0952	570	7.0	BEIKT	Y5
119 KHAR	11	0949E		1005D	S23	E26	.498	15813	13.4	16D	-F	*	P	0952	165	2.0	BL	Y5
120 KHAR	11	0953E		1004D	S16	W34	.567	15808	8.9	11D	-F		V	0953			BD	Y5
121 KHAR	11	1105E	1106	1140D	N14	W33	.625	15807	9.0	35D	?F		P	1108	175	2.3	EHKT	Y5
	IMP.1 NO : LVOV																	
122 RAMY	11	1206	1207	1213	S20	W19	.387	15812	10.1	7	-N	3	C		25			Y5
GRP72123	11	1223+2	1233+2	1314D	N12	W32	.600	15807	9.1	51	1B						J	
LVOV	11	1223	1235	1314	N12	W30	.576	15807	9.3	51	2N		C	1235	500	6.4	J	
RAMY	11	1225	1233	1349	N13	W32	.607	15807	9.1	84	1B	3	C		243		DE F	
CATA	11	1225E	1250	1250D	N12	W33	.612	15807	9.0	25D	1B	2	P	1250	224	2.9		
124 RAMY	11	1438	1440	1456	S18	E18	.357	15813	13.0	18	-N	3	C		29			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP72125	11	1438	1510	1604	N16	W34	.650	15807	9.1	86	-B				110	1.4	FH	
			1523+6															
RAMY	11	1438	1528	1604	N16	W34	.650	15807	9.1	86	-B	*	C		106			
MCMA	11	1507E	1523	1616D	N16	W28	.585	15807	9.5	69D	1N	*	C	1523	250	3.3	F	
HOLL	11	1509	1529	1555	N13	W36	.653	15807	8.9	46	-B	*	C		91		F H	
HOLL	11	1509	1510	1555	N13	W36	.653	15807	8.9	46	-N	*	C		65		F H	
126 RAMY	11	1712	1712	1714	S19	W34	.578	15808	9.2	2	-B	3	C		20			Y5
127 RAMY	11	1733	1734	1739	N16	W35	.661	15807	9.1	6	-B	3	C		33			Y5
128 BIGB	11	1852E	1852U	1903	N14	W40	.704	15807	8.8	11D	-F	3	P	1852	4C	.5		Y5
129 MCMA	11	1912E		1913D	S22	W34	.591	15808	9.3	1D	-N		P	1913	100	1.5	E	Y5
GRP72130	11	2035+1	2037	2057	S34	E29	.620	15816	14.0	22	-N						F	
			2044															
CULG	11	2035	2037	2057	S36	E29	.637	15816	14.0	22	-N		C	2037	90	1.2		
HOLL	11	2036	2044	2057	S33	E30	.620	15816	14.1	21	-B	3	C		73		F	
131 CULG	11	2102	2103	2109	S23	W34	.596	15808	9.3	7	-F		C	2103	60	.7		Y5
	11	2119	2120	NO FLARE PATROL														
	11	0650	0655	NO FLARE PATROL														
132 CULG	11	2231U	2247U	2356U	N17	W42	.740	15807	8.8	85D	-F	*	C	2247	60	.9		Y5
GRP72133	11	2331>9	2352	0014	S35	E27	.612	15816	14.0	43	-F						EJ	
			2401															
CULG	11	2331	2401	0023	S36	E27	.621	15816	14.0	52	-F		C	2401	20	.3		
VORO	11	2350	2352	0004	S34	E27	.602	15816	14.0	14	-F		C	2352	90	1.1	EJ	
GRP72134	12	0000+5	0017+3	0204	N16	W36	.672	15807	9.3	124	1N				370	4.9	JU	
			0029+2															
MITK	12	0000		0250	N17	W34	.658	15807	9.5	170	2N	*	C	0018	420	5.8	EF	
VORO	12	0001	0031	0153	N14	W38	.682	15807	9.2	112	3F	*	P	0031	1021	13.9	FJ	
MANI	12	0005	0017	0110	N15	W37	.677	15807	9.2	65	1B	*	C		200		FDE	
MANI	12	0012E	0018	0105D	N15	W36	.666	15807	9.3	53D	1B	*	C		170		FDE	
PALE	12	0018E	0020U	0130D	N16	W36	.672	15807	9.3	72D	-B	*	C		100		DE	
CULG	11	2340	2429	0353	N16	W35	.661	15807	9.4	253	1N	*	C	2429	360	4.7	U	
GRP72135	12	0210+3	0215+2	0245	S35	E27	.611	15816	14.1	35	-B				70	.9	D	
CULG	12	0210	0217	0248	S35	E27	.611	15816	14.1	38	-N		C	0217	90	1.2		
MITK	12	0211	0217	0245	S35	E27	.611	15816	14.1	34	-B		C	0217			D	
MANI	12	0213	0215	0240	S35	E27	.611	15816	14.1	27	-B	3	C		50			
GRP72136	12	0238+0	0243+2	0303	S24	W37	.636	15808	9.3	25	-N				130	1.7	E	
MITK	12	0238	0243	0301	S25	W37	.640	15808	9.3	23	1F		C	0243	170	2.2	E	
CULG	12	0238	0245	0305	S24	W38	.647	15808	9.3	27	-N		C	0245	100	1.3		
137 CULG	12	0522	0528	0540	S24	W37	.636	15808	9.4	18	-F		C	0528	30	.4		Y5
138 CULG	12	0538	0540	0558	S23	E29	.535	15818	14.4	20	-F		C	0540	40	.5		Y5
GRP72139	12	0546+2	0549+6	0611	N15	W38	.688	15807	9.4	25	-N				140	1.9	E	
MITK	12	0546	0549	0611	N16	W38	.694	15807	9.4	25	1F		C	0549	210	3.0	E	
CULG	12	0547	0551	0618D	N15	W36	.666	15807	9.5	31D	-N		C	0551	100	1.3		
MANI	12	0548	0555	0600	N15	W38	.688	15807	9.4	12	-B	3	C		100			
GRP72140	12	0825E	0827	0858D	S35	E23	.579	15816	14.1	33	-N						D	
KHAR	12	0825E	0827	0856D	S34	E20	.544	15816	13.9	31D	-N	*	P	0831	110	1.4	D	
ABST	12	0849E	0849	0858D	S35	E23	.579	15816	14.1	9D	-F	*	P	0849	87	1.1	D	
HTPR	12	0850E		0857D	S35	E23	.579	15816	14.1	7D	-F	*	C	0852	10	.1		
141 KHAR	12	0837E		0900D	N15	E76	.979	15823	18.1	23D	-F		P	0837	80		D	Y5
GRP72142	12	0916	0922	0948D	S34	E24	.576	15816	14.2	32	-B				120	1.5	E	
HTPR	12	0916		0948D	S34	E23	.568	15816	14.1	32D	-B		C	0920	80	1.0	E	
KHAR	12	0920E	0922	0945D	S35	E25	.595	15816	14.3	25D	1N		P	0924	160	2.1	CE	
143 KHAR	12	0934E		1000D	N15	E76	.979	15823	18.1	26D	-F		P	0934	80		DH	Y5
	12	1000	1001	NO FLARE PATROL														
	12	1002	1004	NO FLARE PATROL														
144 KHAR	12	1004E		1100D	N17	W46	.780	15807	9.0	56D	1F		P	1004	245	4.0	EK	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
145 HTPR	12	1102	1102	1112	N20	E90	1.001	15830	19.2	10	-F		C	1102	40		Y5
146 HTPR	12	1157	1204	1206	N19	E68	.949	15823	17.6	9	-F		C	1204	20	.5	Y5
147 HTPR	12	1303	1305	1315	S23	W46	.733	15808	9.1	12	-F		C	1305	30	.4	E Y5
	12	1344	1424	NO FLARE PATROL													
148 HTPR	12	1424E		1434	N20	E90	1.001	15830	19.4	10D	-F	*	C	1424	60		Y5
149 HTPR	12	1424E		1442D	S35	E19	.549	15816	14.0	18D	-F		C	1442	80	1.0	E Y5
	12	1442	1508	NO FLARE PATROL													
	12	0752	0805	NO FLARE PATROL													
	12	0807	0825	NO FLARE PATROL													
	12	0900	0904	NO FLARE PATROL													
150 HTPR	12	1526	1531	1540	N19	E67	.944	15823	17.7	14	-F		C	1531	50	1.3	Y5
151 BIGB	12	1613	1618	1622	S16	E56	.824	15827	16.9	9	-N	1	C	1618	50	.9	Y5
152 HTPR	12	1628		1633D	N20	E90	1.001	15830	19.4	5D	-F		C	1629	60		Y5
153 HOLL	12	1739	1740	1753	N13	W51	.813	15807	8.9	14	-N	3	C		18		Y5
GRP72154	12	1814	1825 1837	1915	N17	W33	.647		10.3	61	-F						
BIGB	12	1814	1837	1915	N19	W32	.652		10.4	61	-F	2	C	1837	40	.5	
BIGB	12	1820	1825	1833	N16	W34	.651		10.2	13	-F	2	C	1825	10	.1	D
155 RAMY	12	1948E	1948U	1951D	N19	E64	.928	15823	17.6	3D	-B	2	C		33		Y5
GRP72156	12	1948+0	1956	2031	S34	E16	.516	15816	14.0	43	1B				190	2.2	U
HOLL	12	1948	1956	2031	S34	E15	.510	15816	14.0	43	1B	3	C		226		U
RAMY	12	1948E	1951U	1951D	S36	E17	.548	15816	14.1	3D	-B	2	C		164		FDE
MCMA	12	2010E		2017D	S34	E16	.516	15816	14.0	7D	-B		P	2012	50	.6	D
157 BIGB	12	2025	2043	2101	S32	E35	.660		15.5	36	-N	3	C	2043	80	1.0	Y5
158 CULG	12	2147	2150	2204	S18	W01	.197	15813	12.8	17	-N		C	2150	100	1.0	Y5
GRP72159	12	2152	2219 2233+2	2257	S35	E13	.511	15816	13.9	65	-N						FU
CULG	12	2152	2235	2300	S34	E14	.503	15816	14.0	68	-N		C	2235	40	.5	
HOLL	12	2208E	2233	2254	S37	E13	.538	15816	13.9	46D	-B	2	C		132		U F
HOLL	12	2208E	2219	2254	S37	E13	.538	15816	13.9	46D	-N	2	C		52		U F
160 HOLL	12	2208E	2215U	2237	S14	E00	.127	15813	12.9	29D	-N	2	C		45		Y5
161 HOLL	12	2214E	2214U	2235	N21	E39	.734	15819	15.9	21D	-N	2	C		18		Y5
162 HOLL	12	2221	2226	2235	S19	W40	.653	15812	9.9	14	-N	2	C		34		Y5
163 HOLL	12	2225	2228	2234	N16	W50	.813	15807	9.2	9	-N	2	C		15		Y5
164 BIGB	12 IMP.1	2355U NO	2413U MITK	0013D CULG	N15	E35	.655	15819	15.6	18D	?N	2	P	2413	260	3.3	Y5
GRP72165	13	0033	0045 0116	0131	S34	E13	.497	15816	14.0	58	-N						
CULG	13	0033	0045	0125	S34	E15	.509	15816	14.1	52	-N		C	0045	90	1.0	T
CULG	13	0113	0116	0131	S35	E12	.505	15816	14.0	18	-F	*	C	0116	30	.3	T
166 CULG	13	0035	0042	0129	S20	E02	.232	15813	13.2	54	-F		C	0042	140	1.4	F Y5
167 CULG	13	0152	0158	0212	S35	E13	.511	15816	14.1	20	-N		C	0158	50	.6	T Y5
GRP72168	13	0212	0225+5	0249	S35	E14	.516	15816	14.1	37	-N				70	.8	
CULG	13	0212	0230	0249	S35	E12	.505	15816	14.0	37	-F		C	0230	80	.9	T
MANI	13	0222E	0225	0234D	S35	E17	.534	15816	14.4	12D	-B	3	C		60		
169 CULG	13	0248	0253	0325	N18	W55	.863	15807	9.0	37	-F		C	0253	50	1.0	Y5
GRP72170	13	0440+5	0453+1	0512	S35	E11	.500	15816	14.0	32	1N				240	2.8	EV
CULG	13	0448	0454	0518	S35	E10	.496	15816	13.9	38	1N		C	0454	280	3.2	VT
MITK	13	0445	0453	0506	S35	E12	.505	15816	14.1	21	1B		C	0453	210	2.5	E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
171 ABST	13	0623E	0625	0632D	N21	E26	.611	15825	15.2	90	-F		P	0625	105	1.3	F	Y5
GRP72172	13	0657+1	0659+6	0744	N17	E62	.911	15823	17.9	47	-N				80	1.9	F	
ABST	13	0657E	0659	0707D	N17	E62	.911	15823	17.9	100	1N		P	0659	87		F	
CULG	13	0658	0705	0744	N17	E63	.918	15823	18.0	46	-N		C	0705	70	1.6		
173 CULG	13	0736	0740	0756	S35	E09	.492	15816	14.0	20	-N		C	0740	100	1.2	T	Y5
174 CULG	13	0738	0744	0802	N17	W57	.876	15807	9.0	24	-N		C	0744	60	1.2		Y5
175 ATHN	13	0849E	0851	0856D	S35	E10	.496	15816	14.1	70	-N	1		0851	196	2.3		Y5
176 KAND	13	1038E	1038	1046	N22	E22	.587	15825	15.1	80	-N		C		52			Y5
177 HTPR	13	1050	1053	1058	S23	W59	.856	15808	9.0	8	-F		C	1053	20	.4	E	Y5
178 KAND	13	1138E	1141	1150	N19	E54	.858	15823	17.5	120	-N	*	C		42			Y5
GRP72179	13	1138	1155	1204	N21	E90	1.001	15830	20.2	26	-N							
KAND	13	1138		1157	N19	E90	1.001	15830	20.2	19	-N		C					
KAND	13	1150	1155	1204	N24	E90	1.001	15830	20.2	14	-N		C					
180 HTPR	13	1155	1205	1230	S19	W10	.270	15813	12.7	35	-N		C	1205	60	.6	E	Y5
181 KAND	13	1206	1211	1225	N19	E90	1.001	15830	20.3	19	-N		C					Y5
GRP72182	13	1227+3	1232+1	1240	N19	E56	.873	15823	17.7	13	-N				50	1.0		
HTPR	13	1227	1232	1238	N20	E58	.891	15823	17.9	11	-N		C	1232	40	.8		
KAND	13	1230	1233	1241	N19	E54	.858	15823	17.6	11	-N		C		73			
183 KAND	13	1257		1323	N22	E21	.578	15825	15.1	26	-F		C					Y5
184 KAND	13	1316	1318	1322	N15	W60	.893	15807	9.1	6	-N		C		62			Y5
	13	1332	1437	NO FLARE PATROL														
	13	1452	1458	NO FLARE PATROL														
	13	1511	1550	NO FLARE PATROL														
185 BIGB	13	1614	1615	1625	N15	E55	.854	15823	17.8	11	-N	1	C	1615	30	.5		Y5
186 BIGB	13	1708	1711	1725	N13	E60	.889	15823	18.2	17	-N	1	C	1711	80	1.6		Y5
187 HOLL	13	1709	1712	1729	N14	W58	.876	15807	9.4	20	-B	3	C		101		F	Y5
188 BIGB	13	1715	1718	1719	N16	E74	.973	15830	19.3	4	-N	1	C	1718	20			Y5
189 BIGB	13	1715	1723	1741	N16	E89	1.000	15830	20.4	26	?N	2	C	1723	80	.8		Y5
	IMP.1 NO : HOLL																	
GRP72190	13	1843+6	1850+2	1900	S18	W10	.257	15813	13.0	17	-N				60	.6	F	
BIGB	13	1843	1852	1900	S18	W10	.257	15813	13.0	17	-N	2	C	1852	80	.8		
HOLL	13	1847	1850	1905	S18	W10	.257	15813	13.0	18	-N	4	C		48		F	
RAMY	13	1849	1850	1656	S18	W10	.257	15813	13.0	7	-N	2	C		44		F	
191 HOLL	13	1849	1849	1903	N14	W59	.884	15807	9.4	14	-B	4	C		14			Y5
GRP72192	13	1903+4	1908+1	1923	N14	W59	.884	15807	9.4	20	-B				60	1.2	F	
BIGB	13	1903	1908	1930	N13	W60	.889	15807	9.3	27	-N	3	C	1908	60	1.2		
RAMY	13	1905	1908	1923	N15	W55	.854	15807	9.7	18	-B	2	C		77			
HOLL	13	1907	1909	1918	N14	W59	.884	15807	9.4	11	-B	4	C		22		F	
193 BIGB	13	1922	1927	1937	N16	E90	1.001	15830	20.6	15	?N	3	C	1927	80			Y5
	IMP.1 NO : HOLL																	
194 BIGB	13	1923	1924	1925	N17	W65	.930	15807	8.9	2	-N	3	C	1924	10	.2	DC	Y5
GRP72195	13	1934+3	1938 1955	1958	S18	W10	.257	15813	13.1	24	-N						F	
HOLL	13	1934	1955	2010	S18	W11	.268	15813	13.0	36	-N	4	C		30		F	
RAMY	13	1937	1938	1945	S18	W10	.257	15813	13.1	8	-N	2	C		35			
GRP72196	13	1956+1	1958+0	2008	N18	E53	.847	15823	17.8	12	-B				80	1.5		
BIGB	13	1956	1958	2015	N18	E50	.821	15823	17.6	19	-N	3	C	1958	80	1.4		
RAMY	13	1956	1958	2008	N18	E53	.847	15823	17.8	12	-B	2	C		91			
HOLL	13	1957	1958	2007	N17	E55	.860	15823	18.0	10	-B	4	C		62		DE	
197 BIGB	13	2008	2011	2013	S26	E90	.999	15832	20.6	5	-N	3	C	2011	10			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
198 BIGB	13	2014	2016	2018	N14	E90	1.000	15830	20.6	4	-N	3	C	2016	40		Y5
GRP72199	13	2042+1	2050+1	2108	N16	W62	.909	15807	9.2	26	-N				50	1.1	
BIGB	13	2042	2051	2108	N14	W62	.906	15807	9.2	26	-N	3	C	2051	60	1.3	E
CULG	13	2043E	2050U	2114	N16	W60	.896	15807	9.4	310	-F		C	2050	40	.9	
HOLL	13	2043	2051	2104	N16	W63	.916	15807	9.1	21	-B	4	C		48		F
GRP72200	13	2049+9	2058+4	2111	N19	E55	.866	15823	18.0	22	-N				30	.6	
BIGB	13	2049	2058	2111	N21	E55	.872	15823	18.0	22	-N	3	C	2058	40	.7	
CULG	13	2058	2102	2114	N19	E55	.866	15823	18.0	16	-F		C	2102	10	.2	
HOLL	13	2058	2059	2106	N17	E55	.860	15823	18.0	8	-B	4	C		29		
201 HOLL	13	2115	2115	2132	N21	E26	.611	15819	15.8	17	-N	4	C		21		Y5
202 HOLL	13	2125	2128	2137	N17	E54	.852	15823	17.9	12	-B	4	C		109		U F Y5
GRP72203	13	2134>9	2140+4 2200	2211	N14	W70	.954	15807	8.6	37	-F						
CULG	13	2134	2144	2211	N14	W70	.954	15807	8.6	37	-F		C	2144	30		
CULG	13	2134	2140	2156	N08	W61	.888	15807	9.3	22	-F		P	2140	80	1.6	
BIGB	13	2153	2200	2202	N15	W78	.986	15807	8.1	9	-N	3	C	2200	50		
BIGB	13	2209	2221	2248	N15	W65	.927	15807	9.0	39	-N	3	C	2221	40	.9	
GRP72204	13	2151	2158	2215	N14	E90	1.000	15830	20.7	24	-N						
BIGB	13	2151	2158	2215	N16	E90	1.001	15830	20.7	24	-N	3	C	2158	40		
BIGB	13	2155	2158	2206	N12	E90	1.000	15830	20.7	11	-N	3	C	2158	40		
205 BIGB	13	2207	2211	2223	S25	E90	.999	15832	20.7	16	-N	3	C	2211	40		Y5
206 BIGB	13	2249	2254	2300	S25	E90	.999	15832	20.7	11	-N	3	C	2254	40		Y5
207 BIGB	13	2338	2343	2350	S25	E90	.999	15832	20.7	12	-N	3	C	2343	20		Y5
GRP72208	14	0018+2	0020+2 0027	0036	N13	W63	.911	15807	9.3	18	-B				90		FU
BIGB	14	0018	0020	0036	N13	W64	.918	15807	9.2	18	1N	3	C	0020	110	2.6	
CULG	14	0018	0022	0044	N14	W62	.906	15807	9.4	26	-N		C	0022	70	1.9	
HOLL	14	0018	0020	0328D	N16	W65	.929	15807	9.1	100	-B	3	C		80		U F
MANI	14	0020	0022	0030	N12	W62	.902	15807	9.4	10	-B	3	C		100		F
MANI	14	0020	0027	0030	N12	W62	.902	15807	9.4	10	-B	3	C		100		F
209 CULG	14	0055	0058	0104	N23	E15	.548	15825	15.2	9	-N		C	0058	50	.6	Y5
GRP72210	14	0104+2	0108+2	0119	N16	E81	.993	15830	20.1	15	-N						
CULG	14	0104	0110	0124	N15	E82	.995	15830	20.2	20	-F		C	0110	30		
MANI	14	0106	0109	0113	N17	E82	.995	15830	20.2	7	-B	2	C		60		
MANI	14	0107E	0108	0112	N16	E80	.991	15830	20.0	50	-B	3	C		80		
211 CULG	14	0132	0136	0144	N18	E47	.794	15823	17.6	12	-F		C	0136	40	.8	Y5
212 CULG	14	0238	0249	0302	N23	E15	.548	15825	15.2	24	-N		C	0249	40	.5	Y5
213 CULG	14	0443	0446	0451	N23	E15	.548	15825	15.3	8	-N		C	0446	40	.5	Y5
214 CULG	14	0610	0617	0642	N11	E90	1.000	15830	21.0	32	-N		C	0617	20		Y5
215 CULG	14	0622	0632	0643	N18	E78	.987	15830	20.1	21	-N		C	0632	30		Y5
216 CULG	14	0625	0646	0704	N14	W72	.963	15807	8.9	39	-F		C	0646	30		Y5
GRP72217	14	0650+3	0655+0	0711	N16	E82	.995	15830	20.4	21	-N				40		
CULG	14	0650	0655	0711	N15	E80	.991	15830	20.3	21	-N		C	0655	30		
MANI	14	0653	0655	0710	N17	E85	.999	15830	20.7	17	-B	2	C		50		
218 CULG	14	0654	0658	0709	N18	E43	.756	15823	17.5	15	-F		C	0658	20	.3	Y5
219 CULG	14	0708	0715	0739	N15	W65	.927	15807	9.4	31	-F		C	0715	30		Y5
220 CULG	14	0723	0733	0754	N18	E80	.992	15830	20.3	31	-F		C	0733	20		Y5
GRP72221	14	0744>9	0807	0819	N15	W67	.939	15807	9.3	35	-N						
CULG	14	0744	0807	0817	N15	W65	.927	15807	9.4	33	-N		P	0807	50		
KAND	14	0808		0820	N15	W70	.955	15807	9.1	12	-N		C				
GRP72222	14	0759	0807+5	0819	N17	E77	.984	15830	20.1	20	-F						
CULG	14	0759	0812	0819	N17	E80	.991	15830	20.3	20	-F		P	0812	40		
KAND	14	0802E	0807	0818	N17	E75	.977	15830	20.0	160	-N		C				

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.		
223 CULG	14	0801	0803	0812	S16	W19	.354	15813	12.9	11	-F		P	0803	40	.5		Y5
GRP72224	14	0819+1	0823+1	0900	N03	E54	.817	15828	18.4	41	-N							
MANI	14	0819	0823	0840	N03	E55	.827	15828	18.5	21	-N	2	C		35	.6	F	
KAND	14	0820	0824	0901	N04	E54	.819	15828	18.4	41	-N		C		30		F	
ATHN	14	0835E	0835	0900	N02	E51	.784	15828	18.2	250	-N	1		0835	42			
225 KAND	14	0845	0850	0901	N16	E90	1.001	15830	21.1	16	-N		C		90	1.1		Y5
	14	1027	1033	NO FLARE PATROL														
226 HTPR	14	1302	1302	1306	S40	W14	.581	15816	13.5	4	-F		C	1302	30	.4	E	Y5
227 HTPR	14	1415	1418	1419	N18	E45	.776	15823	18.0	4	-F		C	1418	60	.8		Y5
	14	1537	1546	NO FLARE PATROL														
228 HOLL	14	1548	1604	1656	N15	W75	.976	15807	9.0	68	-B	3	C				FDE	Y5
229 BIGB	14	1709	1712	1719	N22	E43	.777	15823	17.9	10	-N	2	C	1712	40	.6		Y5
GRP72230	14	1747	1800 1814	1818	N18	E41	.737	15823	17.8	31	-N							
BIGB	14	1747	1800	1815	N21	E44	.781	15823	18.0	28	-N	2	C	1803	90	1.3		
BIGB	14	1810	1814	1818	N16	E38	.694	15823	17.6	8	-F	2	C	1814	10	.1		
231 BIGB	14	1831	1833	1840	N13	E65	.924	15830	19.6	9	-N	2	C	1833	50	.9		Y5
232 BIGB	14	1955	2014	2053	N16	E41	.726	15823	17.9	58	-N	2	C	2014	140	1.5		Y5
233 BIGB	14	2118	2120	2123	N25	E06	.535	15825	15.3	5	-F	3	C	2120	50	.5		Y5
234 BIGB	14	2143	2148	2152	N30	E80	.996		20.9	9	-F	3	C	2148	10		D	Y5
235 BIGB	14	2147	2150	2205	N16	E70	.956	15830	20.2	18	-F	2	C	2150	40			Y5
GRP72236	14	2211>9	2222 2233+2	2248	N15	E68	.944	15830	20.0	37	-N							
BIGB	14	2211	2222	2240	N16	E69	.951	15830	20.1	29	1N	3	C	2222	130			
BIGB	14	2222	2233	2243	N13	E75	.975	15830	20.6	21	-F	3	C	2233	10		D	
HOLL	14	2226	2235	2252	N16	E65	.929	15830	19.8	26	-N	3	C		24			
237 BIGB	14	2226	2230	2236	N30	E80	.996		20.9	10	-F	3	C	2230	10		D	Y5
238 VORO	15	0040	0041	0045	N17	E33	.648	15823	17.5	5	-F		C	0041	27	.3	D	Y5
239 VORO	15	0106	0107	0108	N16	E64	.923	15830	19.8	2	-F		C	0107	54	1.3	D	Y5
240 VORO	15	0112	0113	0119	N14	W90	1.000	15807	8.3	7	-F		C	0113	45		DH	Y5
GRP72241	15	0118+0	0119+4	0130	N17	E69	.952	15830	20.2	12	1N				130		E	
VORO	15	0118	0119	0130	N18	E68	.948	15830	20.2	12	-N		C	0119	179		E	
MANI	15	0118	0123	0129	N17	E70	.957	15830	20.3	11	-B	2	C		90			
GRP72242	15	0134+1	0137+3	0156	S19	W27	.484	15813	13.0	22	-N				80	.9	EHJ	
VORO	15	0134	0137	0202	S19	W28	.497	15813	13.0	28	-N		C	0137	108	1.2	EHJ	
MANI	15	0135	0140	0150	S19	W26	.470	15813	13.1	15	-B	2	C		50			
GRP72243	15	0139+2	0143+0	0149	N16	E33	.641	15823	17.5	10	-B						D	
VORO	15	0139	0143	0149	N17	E33	.648	15823	17.5	10	-B		C	0143	108	1.4	D	
MANI	15	0141	0143	0149	N16	E34	.652	15823	17.6	8	-B	2	C		30			
244 VORO	15	0213	0215	0223	S16	E36	.593	15827	17.8	10	-F		C	0215	54	.6	E	Y5
245 VORO	15	0235	0237	0241	N22	E00	.482	15825	15.1	6	-N		C	0237	99	1.1	E	Y5
GRP72246	15	0238+8	0245+3	0305	N17	E68	.947	15830	20.2	27	1N				100		EJ	
VORO	15	0238	0245	0306	N18	E68	.948	15830	20.2	28	-N		C	0245	90		EJ	
MANI	15	0246	0248	0303	N16	E68	.946	15830	20.2	17	-B	2	C		80			
CULG	15	0250E		0251D	N17	E69	.952	15830	20.3	1D	1N		P	0251	120			
247 CULG	15	0354	0356	0403	N15	E32	.622	15823	17.6	9	-F		C	0356	40	.5		Y5
248 CULG	15	0354	0357	0402	S19	W29	.511	15813	13.0	8	-F	*	C	0357	40	.5		Y5
249 CATA	15	0725E	0725	0725D	N10	W90	1.000	15807	8.6		?N	2	P	0725	112		A	Y5
	IMP.1 NO ↕ TACH																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
250 CATA	15	0845	0845	0853	N18	E65	.932	15830	20.2	5	1N	2	C	0845	84			Y5
GRP72251	15	0951+4	0955+0	1011	N23	00	.497	15825	15.4	20	-N				70	.8	H	
ZURI	15	0951	0955	1011	N23	E00	.497	15825	15.4	20	-N		C	0955	70	.8		
CATA	15	0955	0955	1000D	N23	E01	.498	15825	15.5	5D	-B	2	P	0955	84	1.0	H	
252 KAND	15	1046		1057	N15	W90	1.000	15807	8.7	11	-F		C					Y5
253 KAND	15	1118	1128	1138	N15	W90	1.000	15807	8.7	20	-F		C					Y5
254 ZURI	15	1143	1147	1155	N19	W05	.443	15825	15.1	12	-F		C	1147	80	.9		Y5
	15	1309	1410	NO FLARE PATROL														
	15	1419	1552	NO FLARE PATROL														
	15	0324	0353	NO FLARE PATROL														
	15	0403	0415	NO FLARE PATROL														
	15	0421	0431	NO FLARE PATROL														
	15	0450	0455	NO FLARE PATROL														
	15	0508	0512	NO FLARE PATROL														
255 BIGB	15	1558	1600	1603	N02	E39	.642	15828	18.6	5	-N	1	C	1600	20	.7		Y5
GRP72256	15	1637E	1637	1657	N16	E64	.923	15830	20.5	20	-N							
BIGB	15	1637E	1637	1657	N17	E59	.891	15830	20.1	20D	-N	1	C	1637	80	1.1		
BIGB	15	1637E	1637	1655	N15	E69	.950	15830	20.9	18D	-N	1	C	1637	20			
257 BIGB	15	1713	1715	1723	N16	E50	.814	15830	19.5	10	-N	2	C	1715	80	.9		Y5
258 BIGB	15	1807	1809	1822	N10	E59	.876	15830	20.2	15	-N	3	C	1809	10	.1	D	Y5
259 BIGB	15	2016	2020	2024	N14	W90	1.000	15807	9.1	8	1N	2	C	2020	60			Y5
260 BIGB	15	2133	2137	2202	N04	E60	.873		20.4	29	-N	3	C	2137	10	.2	D	Y5
261 BIGB	15	2149	2154	2154D	N14	E67	.938	15830	20.9	5D	-N	3	C	2154	20			Y5
262 BIGB	15	2152	2157	2157D	S26	E65	.903	15832	20.8	5D	-N	3	C	2157	60	1.1		Y5
263 CULG	15	2239	2241	2248	S15	W79	.977	15812	10.0	9	-F		C	2241	40			Y5
264 VORO	15	2338	2339	2342	N19	E48	.808	15830	19.6	4	-N		C	2339	45	.7	D	Y5
GRP72265	16	0029+1	0031+2	0043	N21	E53	.857	15830	20.0	14	-N				60	1.1	EL	
VORO	16	0029	0031	0040	N23	E53	.864	15830	20.0	11	-N		C	0031	72	1.3	EL	
CULG	16	0030	0033	0046	N19	E53	.850	15830	20.0	16	-N		C	0033	50	.9		
266 VORO	16	0104	0104	0105	S14	E22	.387	15827	17.7	1	-N		C	0104	27	.2	D	Y5
GRP72267	16	0144+2	0152+3 0305	0315	N16	E59	.889	15830	20.5	91	3B				900	18.8	FHIJKU	
CULG	16	0123	0152	0413	N14	E60	.892	15830	20.6	170	2B		C	0152	560	10.1	ZVFKU	
MITK	16	0144	0152	0313	N16	E59	.889	15830	20.5	95	3B		C	0152	930	20.2	FH	
PALE	16	0145	0152	0248	N15	E58	.879	15830	20.4	63	2B	3	C		653		U F	
VORO	16	0146	0155	0257	N17	E56	.868	15830	20.3	71	3F		C	0155	1120	22.7	FHIJ	
KODA	16	0152E	0152	0238	N17	E60	.898	15831	20.6	46D	4B		P	0152	2662	27.4	EI	
KODA	16	0303E	0305	0329	N17	E59	.891	15830	20.6	26D	1N	*	V	0303			E	
MITK	16	0314	0317	0344	N16	E59	.889	15830	20.6	30	2B	*	C	0317	320	6.7	F	
268 CULG	16	0302	0312	0330	S29	E62	.885	15832	20.8	28	-F		C	0312	40	.8		Y5
269 CULG	16	0314	0320	0357	S28	E12	.407		17.0	43	-F		C	0320	40	.4	KT	Y5
270 MITK	16	0357	0405	0413	S20	W90	.999	15808	9.4	16	?F		C	0405	110			Y5
	IMP.1 NO I CULG																	
271 CULG	16	0457	0509	0532	N18	E18	.509	15823	17.6	35	-F		C	0509	70	.8		Y5
272 MITK	16	0552	0557	0613	N15	W90	1.000	15807	9.5	21	?N		C	0557	130		EG	Y5
	IMP.1 NO I CULG																	
GRP72273	16	0603	0623+6	0700	S29	E60	.871	15832	20.8	57	1N				100	2.2	EU	
CULG	16	0603	0623	0700	S29	E59	.663	15832	20.7	57	-N		C	0623	80	1.6		
ATHN	16	0620E	0625	0737D	S28	E60	.869	15832	20.8	77D	-N	1		0625	95	1.2		
TACH	16	0622	0629	0640	S30	E62	.886	15832	20.9	18	2N		C	0629	274		EU	
274 CULG	16	0756	0802	0816	S27	W63	.890	15815	11.6	20	-F		C	0802	20	.4		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
275 KHAR	16	0956E		1005D	N18	E14	.476	15823	17.5	9D	-F		P	0956			D	Y5
276 KHAR	16	1048E	1049	1055D	N21	E86	1.000	15837	22.9	7D	-F		P	1052	80		D	Y5
277 KHAR	16	1105	1106	1119	N18	E16	.492	15823	17.7	14	-N		P	1109	90	1.2	E	Y5
GRP72278	16	1109	1109	1125D	S28	E56	.838	15832	20.7	16	1F							
KHAR	16	1109	1109	1125D	S29	E58	.855	15832	20.8	16D	1F		V	1109				
HTPR	16	1115E		1121D	S28	E54	.821	15832	20.5	6D	-F		C	1118	80	1.4		
	16	1130	1156	NO FLARE PATROL														
279 HTPR	16	1156E		1206D	N23	E46	.809	15830	19.9	10D	-F		C	1156	70	.7		Y5
280 HTPR	16	1245	1256	1312	N18	E10	.450	15823	17.3	27	-N		C	1256	70	.7	EK	Y5
281 HTPR	16	1324		1335D	N20	E10	.479	15823	17.3	11D	-F		C	1334	40	.4	E	Y5
282 HTPR	16	1325		1335D	N21	E50	.833	15830	20.3	10D	-F		C	1335	50	.8	E	Y5
	16	1335	1352	NO FLARE PATROL														
283 HTPR	16	1444	1446	1451	N19	E45	.781	15830	20.0	7	-F		C	1446	30	.4	E	Y5
284 HTPR	16	1530	1540	1544	N19	E13	.483	15823	17.6	14	-F		C	1540	20	.2	E	Y5
285 MCMA	16	1624	1630	1715	N13	E51	.813	15830	20.5	51	-B		C	1630	60	1.1	E	Y5
GRP72286	16	1718>9	1742 1755+1	1829	N19	E10	.465	15823	17.5	71	-N				80	.9	EK	
MCMA	16	1718	1755	1840	N19	E10	.465	15823	17.5	82	-B		C	1755	100	1.2		
MCMA	16	1718	1725	1840	N19	E10	.465	15823	17.5	82	-B		C	1725	100	1.2		
MCMA	16	1718	1742	1840	N19	E10	.465	15823	17.5	82	-B		C	1742	125	1.5	EK	
BIGB	16	1750	1756	1817	N19	E11	.470	15823	17.6	27	-N	2	C	1756	70	.8		
GRP72287	16	1750+0	1753+6 1812+2	1816	N14	E38	.683	15830	19.6	26	-N				80	1.1	EH	
MCMA	16	1750	1755	1810	N13	E36	.655	15830	19.4	20	-N		C	1755	75	1.0	EH	
BIGB	16	1750	1753	1814	N12	E37	.661	15830	19.5	24	-N	2	C	1753	90	1.2		
BIGB	16	1758	1759	1815	N19	E46	.790	15830	20.2	17	-N	2	C	1759	20	.3	E	
BIGB	16	1808	1814	1817	N14	E41	.716	15830	19.8	9	-N	2	C	1814	20	.3	E	
BIGB	16	1810	1812	1821	N16	E37	.697	15830	19.5	11	-N	2	C	1812	20	.3	E	
288 MCMA	16	1852	1901	1940	N19	E10	.465	15823	17.5	48	-B		C	1901	60	.7	D	Y5
289 BIGB	16	1932	1937	1944	N18	E36	.687	15830	19.5	12	-N	2	C	1937	20	.3	E	Y5
GRP72290	16	1951+2	1954 2001	2011	N19	E10	.465	15823	17.6	20	-N							
MCMA	16	1951	1954	2013D	N19	E10	.465	15823	17.6	22D	-N		C	1954	50	.6	E	
BIGB	16	1953	2001	2008	N19	E11	.470	15823	17.7	15	-N	2	C	2001	10	.1	D	
291 CULG	16	2053	2100	2118	N17	E44	.762	15830	20.2	25	1F		C	2100	300	4.8		Y5
292 CULG	16	2136	2145	2216D	N18	E08	.440	15823	17.5	40D	-B		C	2145	120	1.3	J	Y5
293 CULG	16	2149	2155	2210	N16	E35	.663	15830	19.5	21	-F		C	2155	100	1.4		Y5
	16	2216	2307	NO FLARE PATROL														
294 MANI	16	2307E	2307U	2318D	N20	E11	.484	15823	17.8	11D	-N	2	V		30			Y5
GRP72295	17	0004	0007 0023+1	0048	N18	E08	.440	15823	17.6	44	-N						JKZ	
MITK	17	0004	0007	0041	N18	E08	.440	15823	17.6	37	-F		C	0007			DZ	
MANI	17	0011E	0015	0050D	N20	E10	.479	15823	17.8	39D	-B	3	C		40		F	
MANI	17	0011E	0024	0050D	N20	E10	.479	15823	17.8	39D	-N	3	C		80		F	
VORO	17	0020	0023	0048	N17	E05	.413	15823	17.4	28	-N		C	0031	81	.8	EJK	
296 VORO	17	0013	0021	0040	N10	E40	.686	15830	20.0	27	-N		C	0021	45	.5	D	Y5
297 VORO	17	0043	0050	0100	N17	E38	.701	15830	19.9	17	-N		C	0050	54	.7	DJ	Y5
298 VORO	17	0124	0127	0147	N19	E40	.733	15830	20.1	23	-N		C	0127	99	1.5	EH	Y5
299 VORO	17	0129	0135	0143	N19	E08	.455	15823	17.7	14	?F		C	0135	188	2.1	EH	Y5
	IMP.1 NO 8 CULG																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
300 VORO	17	0140	0142	0145	N25	E80	.994	15837	23.1	5	-F		C	0142	45		DG	Y5
301 CULG	17	0145	0158	0245	N20	E75	.980	15837	22.7	60	-F		C	0158	60			Y5
302 VORO	17	0208	0209	0222	N19	E05	.444	15823	17.5	14	-N		C	0209	72	.8	D	Y5
GRP72303	17	0224+7	0235+3	0319	N18	E06	.432	15823	17.5	55	1N				370	4.1	EJK	
VORO	17	0224	0235	0305	N19	E06	.447	15823	17.6	41	2F		C	0235	466	5.2	EJK	
CULG	17	0231	0238	0333	N18	E07	.436	15823	17.6	62	1N		C	0238	280	3.1	JT	
GRP72304	17	0256+0	0257+1	0308D	N19	E38	.714	15830	20.0	12	-N				130	1.8		
VORO	17	0256	0257	0308	N20	E38	.720	15830	20.0	12	1F		C	0257	143	2.1	E	
CULG	17	0256	0258	0347	N18	E38	.707	15830	20.0	51	-N		C	0258	130	1.8	F	
305 CULG	17	0346	0350	0357	S30	E47	.763	15832	20.7	11	-F		C	0350	40	.6		Y5
306 CULG	17	0650	0657	0706	S19	E08	.248	15827	17.9	16	-F		C	0657	20	.2		Y5
307 CULG	17	0659	0705	0721	N18	E04	.426	15823	17.6	22	1F		C	0705	240	2.6	T	Y5
GRP72308	17	0802	0805+4 0825	0840D	N18	E04	.426	15823	17.6	38	-N						E	
CULG	17	0802	0805	0819D	N18	E05	.429	15823	17.7	170	-N		C	0805	160	1.8	T	
MANI	17	0805E	0809U	0814D	N18	E04	.426	15823	17.6	90	-N	2	C		40			
ATHN	17	0816E	0825	0840D	N20	E05	.460	15823	17.7	240	-N	1		0825	49	.5		
HTPR	17	0823E		0829D	N18	W01	.422	15823	17.3	60	-N		C	0825	50	.5	E	
GRP72309	17	0809+1	0809+5	0820	N17	E34	.659	15830	19.9	11	-N						D	
MANI	17	0809E	0809U	0814D	N17	E30	.617	15830	19.6	50	-N	2	C		30			
CULG	17	0810	0814	0819D	N13	E34	.632	15830	19.9	90	1F		P	0814	200	2.6		
KODA	17	0814E	0814	0820	N17	E36	.680	15830	20.0	60	-B		V	0814			D	
310 HTPR	17	0841E		0845D	N18	W01	.422	15823	17.3	40	-N		C	0841	50	.5	E	Y5
311 HTPR	17	0856E		0858D	N18	W01	.422	15823	17.3	20	-N		C	0856	50	.5	E	Y5
312 KHAR	17	0946E	1002	1010D	N18	E03	.424	15823	17.6	240	-F		P	1002			ET	Y5
313 KHAR	17	1022E	1024	1045D	N18	E03	.424	15823	17.7	230	-F		V	1025			ET	Y5
314 KHAR	17	1040E	1055	1125D	S13	W67	.914	15813	12.4	450	-F		P	1057	100		H	Y5
315 KHAR	17	1102E	1102	1109D	N18	E03	.424	15823	17.7	70	-F		V	1102			T	Y5
	17	1110	1149	NO FLARE PATROL														
316 RAMY	17	1155	1156	1158	N18	E04	.426	15823	17.8	3	-N	2	C		31			Y5
317 RAMY	17	1201	1204	1209	N16	E33	.641	15830	20.0	8	-N	2	C		35			Y5
318 RAMY	17	1219	1220	1224	N18	E04	.426	15823	17.8	5	-B	2	C		44			Y5
	17	1307	1329	NO FLARE PATROL														
319 RAMY	17	1333	1333	1348	S27	E43	.713	15832	20.8	15	-N	3	C		18			Y5
GRP72320	17	1343+0	1344+1	1413	N15	E41	.721	15830	20.6	30	-F				40	.6	E	
HTPR	17	1343	1345	1410	N16	E41	.727	15830	20.6	27	-F		C	1345	40	.5	E	
HCMA	17	1343	1344	1415	N14	E42	.727	15830	20.7	32	-N		C	1344	40	.6	E	
321 RAMY	17	1415	1417	1434	S27	E43	.713	15832	20.8	19	-N	3	C		20			Y5
322 RAMY	17	1430	1435	1447	N07	W03	.246	15836	17.4	17	-F	3	C		22			Y5
GRP72323	17	1431+6	1439+4	1505	N18	E01	.422	15823	17.7	34	1B				190	2.1	E	
RAMY	17	1431	1443	1606	N18	E02	.422	15823	17.8	95	1B	3	C		253		F	
HCMA	17	1436	1439	1505	N18	E01	.422	15823	17.7	29	-B		C	1439	120	1.3	ET	
HTPR	17	1437	1439	1502	N18	W03	.424	15823	17.4	25	-N		C	1439	200	2.0	E	
GRP72324	17	1455>9	1528	1618	N19	E32	.654	15830	20.0	83	-N						K	
HTPR	17	1455		1524D	N21	E34	.689	15830	20.2	290	-F		C	1505	50	.6	EK	
RAMY	17	1514	1528	1618	N16	E31	.620	15830	20.0	64	-B	3	C		183		F	
HTPR	17	1528E		1545D	N23	E33	.695	15830	20.1	170	-F		C	1528	60	.7	E	
GRP72325	17	1528>9	1555	1610	N18	00	.421	15823	17.6	42	-N						E	
HTPR	17	1528E		1545D	N19	W02	.438	15823	17.5	170	-F	*	C	1532	30	.3	E	
HCMA	17	1545	1555	1610	N18	E01	.422	15823	17.7	25	-N	*	C	1555	75	.8	E	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
326 MCMA	17	1706		1735D	N18	E01	.422	15823	17.8	29D	-N		C	1720	110	1.2	E	Y5
GRP72327	17	1720+2	1723>9	1743	N16	E24	.545	15830	19.5	23	-N				35	.4		
HOLL	17	1710E	1733	1744	N16	E27	.576	15830	19.7	34D	-F	2	C		38		F	
HOLL	17	1710E	1711	1744	N16	E27	.576	15830	19.7	34D	-N	2	C		39		F	
RAMY	17	1720	1723	1757	N16	E22	.524	15830	19.4	37	-B	3	C		31			
MCMA	17	1721	1726	1742	N17	E25	.565	15830	19.6	21	-N		C	1726	60	.7	E	
BIGB	17	1722	1729	1738	N19	E23	.565	15830	19.4	16	-N	1	C	1729	10	.1	D	
GRP72328	17	1740+2	1743+2	1747	N18	00	.421	15823	17.7	7	-B						EU	
MCMA	17	1740	1743	1800	N18	E00	.421	15823	17.7	20	-N		C	1743	110	1.2	E	
RAMY	17	1742	1745	1747	N18	E00	.421	15823	17.7	5	-B	3	C		23			
HOLL	17	1742	1743	1745	N18	E04	.426	15823	18.0	3	-B	3	C		47		U	
329 HOLL	17	1751	1757	1800	N16	E27	.576	15830	19.8	9	-N	3	C		53		F	Y5
GRP72330	17	1805+0	1806+2	1813	N07	W04	.250	15836	17.5	8	-N				40	.4	D	
RAMY	17	1805	1807	1821	N07	W06	.261	15836	17.3	16	-N	3	C		47			
MCMA	17	1805	1808	1813	N07	W04	.250	15836	17.5	8	-N		C	1808	30	.3	D	
BIGB	17	1805	1806	1810	N07	W04	.250	15836	17.5	5	-N	1	C	1806	30	.3		
331 MCMA	17	1835	1845	1900D	N18	E00	.421	15823	17.8	25D	-N		C	1845	100	1.3	E	Y5
GRP72332	17	1842+2	1848+2	1903	N17	E23	.545	15830	19.5	21	-N				40	.5	E	
MCMA	17	1842	1850	1903	N17	E25	.565	15830	19.7	21	-N	*	C	1850	40	.5	E	
RAMY	17	1843	1850	1919D	N16	E22	.524	15830	19.4	36D	-B	*	C		53			
BIGB	17	1844	1848	1859	N18	E23	.555	15830	19.5	15	-N	*	C	1848	20	.2	E	
333 MCMA	17	1900	1905	1915D	N18	W01	.422	15823	17.7	15D	-N		C	1905	125	1.4	E	Y5
GRP72334	17	1905+0	1908+2	1925	N16	E28	.587	15830	19.9	20	-B						F	
HOLL	17	1825	1910	1915D	N16	E28	.587	15830	19.9	50D	1B	*	V		262		F	
BIGB	17	1905	1908	1921	N17	E18	.497	15830	19.1	16	-N	*	C	1908	90	1.0		
MCMA	17	1905	1908	1925D	N15	E28	.579	15830	19.9	20D	-N	*	C	1908	100	1.3	E	
HOLL	17	1909E	1910	1952	N16	E28	.587	15830	19.9	43D	1B	*	C		202		F	
335 MCMA	17	1915	1916	1924	N18	W01	.422	15823	17.7	9	-N		C	1916	60	.7	E	Y5
336 MCMA	17	1931	1932	1940	N15	E28	.579	15830	19.9	9	-N	*	C	1932	100	1.3		Y5
337 MCMA	17	1945	1954	2000	N18	W01	.422	15823	17.7	15	-N		C	1954	60	.7	E	Y5
GRP72338	17	2014>9	2030+2 2125	2140	N17	W04	.410	15823	17.5	86	-N						F	
BIGB	17	2014	2030	2045	N17	W04	.410	15823	17.5	31	-N	2	C	2030	80	.8		
HOLL	17	2029	2032	2217	N17	W02	.407	15823	17.7	108	1B	3	C		196		F	
BIGB	17	2110	2125	2140	N17	W04	.410	15823	17.6	30	-N	1	P	2125	70	.7		
339 HOLL	17	2030	2037	2040	N16	E27	.576	15830	19.9	10	-F	3	C		50			Y5
GRP72340	17	2126+0	2130 2148	2310	N18	E21	.536	15830	19.5	104	-B				130	1.5	E	
HOLL	17	2126	2130	2313	N16	E26	.566	15830	19.8	107	-B	3	C		116		DE	
BIGB	17	2126	2128	2128D	N18	E20	.527	15830	19.4	2D	-N	1	P	2128	140	1.5		
CULG	17	2139E	2148	2200D	N18	E20	.527	15830	19.4	21D	-N		P	2148	60	.7		
BIGB	17	2215	2224	2230	N18	E19	.518	15830	19.4	15	-N	1	C	2224	40	.4		
BIGB	17	2230	2241	2306	N18	E26	.584	15830	19.9	36	-N	1	C	2241	40	.4	E	
BIGB	17	2301	2303	2306	N18	E19	.518	15830	19.4	5	-N	1	C	2303	30	.3		
341 HOLL	17	2127	2130	2153	N01	E06	.172	15828	18.3	26	-N	3	C		58			Y5
GRP72342	17	2218+0	2219+0	2232	N01	E06	.172	15828	18.4	14	-N				50	.5		
BIGB	17	2218	2219	2225	N02	E07	.196	15828	18.5	7	-N	1	C	2219	40	.4		
HOLL	17	2218	2219	2239	N01	E05	.163	15828	18.3	21	-B	3	C		66			
343 HOLL	17	2304	2306	2319	S27	E39	.670	15832	20.9	15	-N	3	C		26			Y5
344 BIGB	17	2358	2400	0017	N18	E28	.605	15830	20.1	19	-N	1	C	2400	40	.5		Y5
345 CULG	18	0116	0121	0133	S32	E40	.705	15832	21.1	17	-F		C	0121	30	.4		Y5
346 MITK	18	0142	0143	0149	N18	W07	.436	15823	17.5	7	-N		C	0143			E	Y5
347 CULG	18	0223	0225	0319	N18	E19	.518	15830	19.5	56	-N		P	0225	90	1.0		Y5
348 CULG	18	0446	0449	0510	N18	E23	.555	15830	19.9	24	-F		C	0449	60	.7	F	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
349 CULG	18	0531	0538	0539D	N19	W08	.456	15823	17.6	8D	-N		P	0538	40	.4		Y5
	18	0616	0617	NO FLARE PATROL														
350 CULG	18	0618E	0622D	0622D	N19	E25	.585	15830	20.1	4D	-N		P	0622	130	1.6	F	Y5
GRP72351	18	0637	0644 0710	0723	N18	E16	.493	15830	19.5	43	1B						FK	
HITK	18	0637	0644	0725	N19	E16	.505	15830	19.5	48	1B		C	0644	360	4.3	F	
MANI	18	0649E	0649U	0656D	N16	E13	.443	15830	19.3	7D	-B	1	C		150		F	
HTPR	18	0702E		0717	N20	E18	.533	15830	19.6	15D	-B		C	0702	150	1.5	BEK	
CATA	18	0705E	0710	0720D	N18	E17	.501	15830	19.6	15D	1B	2	P	0710	168	2.0		
352 HTPR	18	0933	0936	0946	N19	E17	.513	15830	19.7	13	-F		C	0936	30	.3	E	Y5
353 CATA	18 IMP.1 NO 8 HTPR	0940	0950	1030D	S31	W38	.681		15.6	50D	?N	2	P	0950	168	2.3		Y5
354 HTPR	18	1102	1106	1108	N17	E20	.516	15830	20.0	6	-F		C	1106	40	.4		Y5
355 HTPR	18	1117	1123	1135	N19	W02	.439	15823	18.3	18	-F		C	1123	30	.3		Y5
356 HTPR	18	1120	1122	1130	S12	W77	.970	15813	12.7	10	-F		C	1122	50		E	Y5
357 HTPR	18	1123	1124	1133	N13	E17	.440	15830	19.7	10	-F		C	1124	20	.2		Y5
358 HTPR	18	1126	1130	1140	N17	W15	.472	15823	17.4	14	-F	*	C	1130	30	.3		Y5
GRP72359	18	1200>9	1215 1223	1244	N15	W09	.402	15823	17.8	44	-F							
CATA	18	1200E	1215	1245D	N14	W05	.367	15823	18.1	45D	-N	2	P	1215	168	1.8		
HTPR	18	1214	1223	1242	N17	W14	.464	15823	17.5	28	-F		C	1223	20	.2		
360 HTPR	18	1306	1320	1440	N21	W13	.511	15823	17.6	94	-N		C	1320	60	.6	EK	Y5
361 HTPR	18	1357	1359	1402	N15	E17	.464	15830	19.9	5	-F		C	1359	20	.2		Y5
362 HTPR	18	1442	1450	1507	N18	E15	.485	15830	19.7	25	-N		C	1450	80	.8	E	Y5
363 HTPR	18	1511	1557	1607	N18	E11	.457	15830	19.5	56	-F		C	1557	30	.3		Y5
364 HOLL	18	1527	1543	1553	N01	W04	.154	15828	18.3	23	-N	3	C		49			Y5
GRP72365	18	1538+0	1539+4	1618	N18	W13	.470	15823	17.7	40	-N				150	1.7	K	
HOLL	18	1538	1539	1623	N17	W12	.450	15823	17.8	45	-B	3	C		130		F	
HTPR	18	1538	1543	1612	N19	W15	.498	15823	17.5	34	-N		C	1543	180	1.9	EK	
GRP72366	18	1615+5	1629 1639+4	1656D	N15	E19	.484	15830	20.1	41	1B						U	
HOLL	18	1615	1642	1800	N16	E16	.468	15830	19.9	105	2B	3	C		576		U F	
HOLL	18	1615	1629	1800	N16	E16	.468	15830	19.9	105	1B	3	C		330		U F	
HTPR	18	1616		1619D	N13	E18	.451	15830	20.0	3D	-F		C	1619	50	.5	EF	
BIGB	18	1620	1639U	1655	N10	E20	.441	15830	20.2	35	-N	1	C	1639	180	2.0		
MCMA	18	1625E		1647D	N12	E20	.461	15830	20.2	22D	1B		C	1630	200	2.3	E	
BIGB	18	1639	1643	1656	N19	E19	.530	15830	20.1	17	-N	1	C	1643	60	.6		
MCMA	18	1641	1642	1647D	N19	E20	.538	15830	20.2	6D	-N		C	1642	110	1.3	E	
GRP72367	18	1628+8	1638+4 1651	1704D	N17	W14	.464	15823	17.6	36	1B				240	2.7	UX	
MCMA	18	1628	1642	1647D	N18	W16	.493	15823	17.5	19D	1B		C	1642	200	2.4	EX	
BIGB	18	1636	1642	1704	N17	W14	.464	15823	17.6	28	1B	1	C	1642	230	2.4		
HOLL	18	1636	1651	1809	N17	W13	.457	15823	17.7	93	2B	3	C		494		U F	
HOLL	18	1636	1638	1809	N17	W13	.457	15823	17.7	93	1B	3	C		290		U F	
368 HOLL	18	1652	1705	1731	N06	W17	.364	15836	17.4	39	-B	3	C		50		F	Y5
GRP72369	18	1707	1732	1750	N18	W17	.501	15823	17.4	43	1N				200	2.3	E	
BIGB	18	1707	1732	1747	N18	W16	.493	15823	17.5	40	1N	*	C	1732	240	2.7		
HUAN	18	1728E		1753	N18	W18	.509	15823	17.4	25D	1N	*	P	1731	170	2.0	E	
370 HUAN	18	1806	1810	1814	S13	W87	.997	15813	12.2	8	-F		C	1810	20		D	Y5
GRP72371	18	1831+6	1840 1847	1855	N17	E13	.457	15830	19.7	24	-N							
HOLL	18	1831	1840	1856	N16	E15	.459	15830	19.9	25	-B	3	C		43		F	
BIGB	18	1837	1847	1854	N18	E11	.457	15830	19.6	17	-N	1	C	1847	50	.5	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq Deg.		
GRP72372	18	1838+4	1842 1852	1901	N17	W15	.472	15823	17.7	23	-N						F	
BIGB	18	1838	1852	1906	N18	W15	.485	15823	17.7	28	-N	3	C	1852	40	.4		
HOLL	18	1842	1842	1856	N17	W16	.480	15823	17.6	14	-B	3	C		30		F	
373 HOLL	18	1900	1904	1913	N16	E14	.451	15830	19.8	13	-B	3	C		25		F	Y5
GRP72374	18	1928+0	1929 1956	2048	N17	E12	.450	15830	19.7	80	-N							
BIGB	18	1928	2015	2052	N18	E10	.451	15830	19.6	84	-N	3	P	2015	160	1.7		
HOLL	18	1928	1929	1937	N16	E14	.451	15830	19.9	9	-N	3	C		44		F	
HOLL	18	1947	1956	2044	N16	E14	.451	15830	19.9	57	-B	3	C		108		FDE	
GRP72375	18	1954+0	1954+3	2007	N17	W16	.480	15823	17.6	13	-N				40	.5	F	
HOLL	18	1954	1954	2006	N17	W16	.480	15823	17.6	12	-B	3	C		29		F	
BIGB	18	1954	1957	2007	N18	W17	.501	15823	17.6	13	-N	3	C	1957	50	.5		
376 CULG	18 IMP.1	2045E	2047U NO 1 BIGB	2051D HOLL	S13	W85	.994	15813	12.5	60	?F		P	2047	80			Y5
GRP72377	18	2055+1	2057 2117+5	2124	N16	E13	.443	15830	19.8	29	-N				35	.4		
BIGB	18	2055	2122	2158	N17	E18	.497	15830	20.2	63	-N	*	C	2122	50	.8	B	
HOLL	18	2056	2057	2105	N16	E13	.443	15830	19.8	9	-B	*	C		29		F	
BIGB	18	2115	2117	2123	N15	E15	.446	15830	20.0	8	-N	*	C	2117	50	.5		
HUAN	18	2117	2117	2121	N15	E13	.430	15830	19.9	4	-N	*	C	2117	15	.2	D	
HOLL	18	2119	2122	2124	N16	E13	.443	15830	19.9	5	-B	*	C		22		F	
378 BIGB	18	2103	2112	2131	S15	E50	.762	15834	22.6	28	-N	3	C	2112	40	.4	E	Y5
GRP72379	18	2114+1	2122	2142	N17	W17	.489	15823	17.6	28	-N				70	.8	U	
HUAN	18	2114		2123D	N18	W18	.509	15823	17.5	9D	-N		P	2123	45	.5	E	
HOLL	18	2115	2122	2142	N17	W17	.489	15823	17.6	27	-B	3	C		94		U F	
380 BIGB	18	2132	2137	2139	N17	E08	.426	15830	19.5	7	-N	*	C	2137	10	.7	D	Y5
381 HOLL	18	2143	2145	2146	N16	E13	.443	15830	19.9	3	-N	*	C		20			Y5
GRP72382	18	2156+0	2156 2209+0	2243	N17	E11	.443	15830	19.7	47	-B				180	2.0	FU	
BIGB	18	2156	2209	2241	N18	E10	.451	15830	19.7	45	1N	*	C	2209	180	2.2		
HOLL	18	2156	2156	2201	N16	E13	.443	15830	19.9	5	-B	*	C		35			
HOLL	18	2205	2209	2244	N16	E13	.443	15830	19.9	39	-B	*	C		185		U F	
GRP72383	18	2203+3	2210+6	2246	N18	W20	.527	15823	17.4	43	1N				220	2.6	U	
BIGB	18	2203	2210	2245U	N18	W21	.536	15823	17.3	42D	1N	3	C	2210	250	4.7	E	
HOLL	18	2206	2211	2246	N17	W18	.497	15823	17.6	40	1B	3	C		232		U F	
HOLL	18	2206	2216	2246	N17	W18	.497	15823	17.6	40	-B	3	C		189		U F	
CULG	18	2225E		2225D	N20	W20	.550	15823	17.4		1N		P	2225	190	2.3		
GRP72384	18	2324>9	2339+3 2349+5	0012	N18	W19	.518	15823	17.5	48	-N						EJUZ	
BIGB	18	2324	2342	0001	N18	W19	.518	15823	17.6	37	-N	3	C	2342	80	.8		
HOLL	18	2329	2339	0013	N17	W18	.497	15823	17.6	44	-B	3	C		97		U F	
VORO	18	2330	2339	0017	N18	W20	.527	15823	17.5	47	1N		C	2339	242	2.8	EJ	
MANI	18	2335	2339	0006D	N19	W20	.538	15823	17.5	31D	1B	3	V		200		F	
MITK	18	2336E		2344D	N18	W19	.518	15823	17.6	8D	-B		P	2340			EZ	
CULG	18	2338E	2349	2353D	N19	W18	.521	15823	17.6	15D	-N		P	2349	100	1.2		
BIGB	18	2352	2354	2358	N16	W18	.486	15823	17.6	6	-N	1	C	2354	10	.2	D	
MITK	18	2356E		0016	N18	W19	.518	15823	17.6	20D	-N		C	2404			EZ	
GRP72385	18	2342+1	2348+5 2413	0036	N18	E12	.463	15830	19.9	54	-N				100	1.1	HJKU	
BIGB	18	2342	2353	2353D	N17	E14	.464	15830	20.0	11D	-N	1	C	2353	70	.7		
VORO	18	2342	2413	0047	N18	E11	.457	15830	19.8	65	2F		C	2413	466	5.3	EHJK	
HOLL	18	2343	2348	0016D	N16	E12	.436	15830	19.9	35D	-B	2	C		131		U F	
CULG	18	2349E	2353D	2353D	N19	E11	.471	15830	19.8	4D	-N		P	2353	100	1.1		
MANI	18	2350	2350	0006D	N18	E10	.451	15830	19.7	16D	-B	3	V		120		F	
MITK	18	2356E		0024	N18	E13	.470	15830	20.0	28D	-N		C	2359			E	
386 VORO	19	0026	0028	0032	N18	W18	.510	15823	17.7	6	-N		C	0028	90	1.0	D	Y5
387 VORO	19	0044	0045	0050	N08	W24	.473	15836	17.2	6	-N		C	0045	81	.9	D	Y5
388 VORO	19	0047	0056	0120	N16	W20	.505	15823	17.5	33	-B		C	0056	134	1.5	EH	Y5
389 VORO	19	0115	0118	0122	N18	E08	.441	15830	19.7	7	-N		P	0118	152	1.7	ED	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
390 VORO	19	0252	0254	0257	N18	W20	.528	15823	17.6	5	-F		C	0254	90	1.0	Y5
391 CULG	19	0323	0326	0333	N18	W22	.546	15823	17.5	10	-F		C	0326	40	.5	Y5
GRP72392	19	0352	0357	0404	N18	W21	.537	15823	17.6	12	-N				70	.8	F
CULG	19	0352	0357	0404	N18	W21	.537	15823	17.6	12	-N		C	0357	50	.6	
MANI	19	0357E	0357U	0357D	N19	W21	.548	15823	17.6		-B	2	V		100		F
GRP72393	19	0633	0639	0650	N17	W22	.535	15823	17.6	17	-F						FJZ
ABST	19	0633	0639	0646	N16	W23	.535	15823	17.5	13	-F		C	0639	113	1.4	FJ
ABST	19	0638	0639	0650	N19	W21	.548	15823	17.7	12	-F		C	0639	87	1.1	OJZ
GRP72394	19	0757	0821+4	0836	N17	W21	.526	15823	17.8	39	1N				180	2.1	EJKZ
HTPR	19	0757	0822	0835	N18	W24	.565	15823	17.5	38	-N		C	0822	150	1.6	EK
ABST	19	0821E	0821	0836D	N17	W22	.535	15823	17.7	15D	1N		P	0821	210	2.6	EJZ
ABST	19	0821E	0825	0833	N16	W15	.460	15823	18.2	12D	-F		P	0825	96	1.1	O
GRP72395	19	0840+3	0844+1	0850	N16	E02	.392	15830	19.5	10	-F						O
ABST	19	0840	0844	0852	N16	E02	.392	15830	19.5	12	-F		C	0844	87	1.0	O
HTPR	19	0843	0845	0848	N17	E02	.408	15830	19.5	5	-F		C	0845	20	.2	
396 HTPR	19	0928E		0933D	N18	E04	.427	15830	19.7	5D	-F		C	0931	50	.5	EF Y5
	19	1025	1145	NO FLARE PATROL													
	19	1155	1205	NO FLARE PATROL													
	19	1245	1333	NO FLARE PATROL													
GRP72397	19	1500>9	1526+1 1533+1	1649	N19	W27	.604	15823	17.6	109	1B				220	2.7	UV
MCMA	19	1500	1533	1720D	N19	W28	.614	15823	17.5	140D	1B		C	1533	200	2.7	EV
HOLL	19	1524	1534	1637	N17	W27	.586	15823	17.6	73	1B	2	C		235		U F
HOLL	19	1524	1526	1637	N17	W27	.586	15823	17.6	73	-B	2	C		117		U F
RAMY	19	1525E	1527	1649	N19	W25	.585	15823	17.8	84D	1B	3	C		230		FDE
398 RAMY	19	1602	1603	1609	N15	E03	.378	15830	19.9	7	-B	3	C		58		Y5
399 RAMY	19	1634	1636	1659	N15	E03	.378	15830	19.9	25	-N	2	C		22		Y5
GRP72400	19	1755>9	1814+8 1820	1906	N16	E02	.392	15830	19.9	71	2B				480	5.2	FILUW
RAMY	19	1755	1814	1854	N15	E02	.376	15830	19.9	59	1B	3	C		491		F
MCMA	19	1758	1820	1959D	N20	E02	.455	15830	19.9	121D	2B		C	1820	500	5.6	FILW
HOLL	19	1805	1814	1906	N16	E02	.392	15830	19.9	61	1B	3	C		466		U F
GRP72401	19	1959+3	2004+2	2046	N16	E01	.391	15830	19.9	47	-B				70	.8	
MCMA	19	1959	2006	2014D	N20	E04	.458	15830	20.1	15D	-N		C	2006	80	.9	E
HOLL	19	2002	2004	2046	N16	E01	.391	15830	19.9	44	-B	3	C		65		FDE
RAMY	19	2018E	2018U	2035D	N15	E01	.375	15830	19.9	17D	-B	2	C		51		F
GRP72402	19	2026+7	2034+1	2054	S17	E40	.647	15834	22.9	28	-B				80	1.1	F
HOLL	19	2026	2034	2054	S16	E40	.645	15834	22.9	28	-B	3	C		119		F
CULG	19	2028E	2029U	2029D	S17	E37	.608	15834	22.6	1D	-N		P	2029	80	1.0	
RAMY	19	2033	2035	2035D	S17	E42	.672	15834	23.0	2D	-B	2	C		29		
403 CULG	19	2121E	2121U	2256	N04	W20	.387	15828	18.4	95D	2N		P	2121	200	2.2	U Y5
	IMP.1 NO 1 HOLL																
404 HOLL	19	2138	2140	2144	N16	E00	.390	15830	19.9	6	-B	3	C		31		F Y5
GRP72405	19	2201+6	2203 2211	2220	N17	W04	.412	15830	19.6	19	-N						FK
CULG	19	2201	2203	2219	N18	W08	.441	15830	19.3	18	-F		C	2203	40	.4	FK
HOLL	19	2207	2211	2220	N16	W01	.391	15830	19.3	13	-B	3	C		22		
GRP72406	19	2221+0	2225	2240	N16	W06	.403	15830	19.5	19	-B				130	1.4	H
HOLL	19	2221	2225	2240	N16	W01	.391	15830	19.3	19	-B	3	C		145		DE H
CULG	19	2221	2224	2224D	N16	W11	.429	15830	19.1	3D	-B		P	2224	120	1.3	
	19	2305	2320	NO FLARE PATROL													
GRP72407	19	2329>9	2339 2349	0019	N17	W13	.457	15830	19.0	50	-N						FU
HOLL	19	2329	2339	0013	N17	W18	.498	15830	18.6	44	-B	3	C		97		U F
CULG	19	2340	2349U	0025	N18	W08	.441	15830	19.4	45	-F		C	2349	60	.7	
408 HOLL	19	2343	2343	0018D	N16	E12	.436	15830	20.3	35D	-B	2	C		131		U F Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.		
	19	2354	0016	NO FLARE PATROL														
	19	0511	0514	NO FLARE PATROL														
	19	0541	0559	NO FLARE PATROL														
	19	0925	0928	NO FLARE PATROL														
	19	0933	1020	NO FLARE PATROL														
409 CULG	20	0239E	0241	0258	N18	E03	.426	15830	20.3	19D	-N		P	0241	60	.7		Y5
410 CULG	20	0339	0505	0512	N20	W35	.692	15823	17.5	93	-F		C	0505	50	.7	K	Y5
411 CULG	20	0431	0449	0535	N13	W24	.517	15823	18.4	64	?F		C	0449	250	2.7	FIG	Y5
	IMP.1 NO : MITK																	
GRP72412	20	0435>9	0451+3	0524	N18	W06	.434	15830	19.7	49	1F				190	2.1		
CULG	20	0435	0454	0532	N19	W05	.446	15830	19.8	57	1F		C	0454	190	2.1	F	
MITK	20	0447	0451	0515	N18	W07	.438	15830	19.7	28	1F		C	0451	190	2.2	E	
413 CULG	20	0526	0529	0537	N11	W41	.702	15836	17.2	11	-N		C	0529	10	.1		Y5
414 CULG	20	0620	0624	0630	N11	E01	.310	15830	20.3	10	-F		C	0624	20	.2		Y5
415 CULG	20	0715	0717	0719D	N11	W43	.725	15836	17.1	4D	-N		P	0717	20	.3		Y5
GRP72416	20	0745E	0746	0808	N18	W12	.464	15830	19.4	23	-B				170	1.9	F	
CULG	20	0745E	0746U	0810	N20	W10	.481	15830	19.6	25D	-N		P	0746	140	1.6	F	
CATA	20	0750E	0750	0805	N16	W15	.460	15830	19.2	15D	1B	2	P	0750	196	2.2		
	20	1019	1035	NO FLARE PATROL														
417 KHAR	20	1035E	1058	1115D	N17	W17	.490	15830	19.2	40D	?B		P	1052	210	2.5	HT	Y5
	IMP.1 NO : CATA																	
418 KHAR	20	1125E	1126	1153D	N17	W17	.490	15830	19.2	28D	?N		P	1125			ET	Y5
	IMP.1 NO : CATA																	
419 RAMY	20	1214	1217	1220	N20	W39	.730	15823	17.6	6	-N	3	C		20			Y5
420 RAMY	20	1230	1232	1235D	N17	W17	.490	15830	19.2	5D	-B	3	V		58			Y5
421 RAMY	20	1246	1247	1251	N17	W16	.481	15830	19.3	5	-B	3	C		44		F	Y5
422 RAMY	20	1257	1302	1305	N17	W12	.451	15830	19.6	8	-B	3	C		34		F	Y5
423 RAMY	20	1319	1322	1323D	N17	W12	.451	15830	19.7	4D	-B	3	V		57		F	Y5
424 RAMY	20	1344	1344	1405	N21	E27	.623	15837	22.6	21	-B	3	C		25		F	Y5
GRP72425	20	1349	1351	1510	N19	W40	.734	15823	17.6	81	-B						L	
RAMY	20	1349	1351	1416D	N20	W39	.730	15823	17.7	27D	-N	3	V		57		F	
MCMA	20	1350E		1510	N19	W41	.744	15823	17.5	80D	1B		P	1439	150	2.3	EL	
GRP72426	20	1604+6	1615+3 1649+0	1715	N16	W12	.437	15830	19.8	71	1B				240	2.6	EL	
HOLL	20	1604	1618	1714	N16	W10	.423	15830	19.9	70	1B	3	C		223		FDE	
HOLL	20	1604	1649	1714	N16	W10	.423	15830	19.9	70	1B	3	C		305		FDE	
MCMA	20	1610	1615	1705	N15	W04	.380	15830	20.4	55	1B		C	1615	180	2.0	E	
MCMA	20	1644	1649	1705	N16	W20	.505	15830	19.2	21	1B		C	1649	170	2.0	DL	
MCMA	20	1708	1710	1715	N16	W20	.505	15830	19.2	7	-N		C	1710	30	.4	D	
427 HOLL	20	1638	1650	1659	N17	W41	.733	15823	17.6	21	-B	3	C		33		F	Y5
428 HOLL	20	1643	1643	1647	N22	W77	.987	15825	14.9	4	-N	3	C				F	Y5
429 MCMA	20	1716	1721	1746	N20	W16	.519	15830	19.5	30	-N		C	1721	25	.3	D	Y5
GRP72430	20	1721+8	1737 1744+2	1845	N03	W32	.552	15828	18.3	84	1B				270	3.2	EU	
MCMA	20	1721	1746	1845	N03	W32	.552	15828	18.3	84	1B		C	1746	220	2.7	EU	
RAMY	20	1724	1744	1903D	N01	W33	.558	15828	18.3	99D	2B	3	C		595		U	
HOLL	20	1729	1737	1833	N03	W32	.552	15828	18.3	64	1B	3	C		275		U	
HUAN	20	1735E		1739D	N03	W33	.565	15828	18.3	4D	1N		P	1739	270	3.3	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72431	20	1745>9	1756 1802+6	1932D	N17	W20	.517	15830	19.2	107	1B				340	3.9	FILU	
HCMA	20	1745	1808	2010D	N20	W25	.595	15830	18.9	145D	2B		C	1808	600	8.0	IL	
RAMY	20	1750	1756	1757	N17	W11	.444	15830	19.9	7	-B	3	C		29		F	
RAMY	20	1759	1802	1803D	N17	W11	.444	15830	19.9	4D	1B	3	V		281		F	
RAMY	20	1759	1804	1903D	N16	W20	.505	15830	19.2	64D	1B	3	C		353		U F	
HOLL	20	1800E	1804	1932	N16	W20	.505	15830	19.3	92D	1B	3	C		336		U F	
HUAN	20	1833E		1929D	N20	W27	.614	15830	18.7	56D	1N		P	1843	320	4.2	E	
HUAN	20	1850		1859D	N15	W23	.525	15830	19.1	9D	-N		P	1854	30	.3		
432 HOLL	20	1802	1804	1810	N17	W42	.743	15823	17.6	8	-N	3	C		19			Y5
GRP72433	20	2003+4	2009+1	2013	N16	W18	.486	15830	19.5	10	-N				35	.4	DU	
HCMA	20	2003	2009	2010D	N16	W22	.525	15830	19.2	7D	-N		C	2009	35	.4	D	
HOLL	20	2007	2010	2013	N16	W15	.460	15830	19.7	6	-B	3	C		32		UDE	
	20	2015	2041	NO FLARE PATROL														
	20	2106	2115	NO FLARE PATROL														
434 CULG	20	2115	2124	2143	N20	W20	.551	15830	19.4	28	1N		C	2124	260	3.1		Y5
435 CULG	20	2138	2233	2311	N20	W45	.786	15823	17.5	93	1N		C	2233	230	3.7	FL	Y5
	20	2209	2228	NO FLARE PATROL														
	20	0222	0229	NO FLARE PATROL														
	20	0235	0236	NO FLARE PATROL														
	20	0442	0443	NO FLARE PATROL														
	20	0925	0930	NO FLARE PATROL														
	20	0935	1002	NO FLARE PATROL														
436 CULG	20	2228E	2228E	2255U	N20	W16	.519	15830	19.7	27D	-F		P	2228	170	1.9	F	Y5
GRP72437	20	2259>9	2350+1	2354D	N17	W21	.526	15830	19.4	55	-N				150	1.7	K	
CULG	20	2259	2351	0036U	N17	W23	.546	15830	19.2	97D	-N		C	2351	160	1.9	K	
MANI	20	2348	2350	2354	N18	W20	.528	15830	19.5	6	-N	3	V		150	1.8		
GRP72438	21	0039+6	0049+0	0124	N17	W23	.546	15830	19.3	45	-F						E	
CULG	21	0039	0049	0131U	N18	W22	.547	15830	19.4	52D	-F		C	0049	70	.8	T	
MITK	21	0045	0049	0117	N17	W24	.556	15830	19.2	32	-F		C	0049			E	
439 CULG	21	0130	0137	0155	N16	W16	.469	15830	19.9	25	-F		C	0137	50	.6		Y5
440 CULG	21	0143	0148	0159	N13	W50	.804	15836	17.3	16	-F		C	0148	60	1.1		Y5
GRP72441	21	0217>9	0237+4	0253D	N18	W22	.547	15830	19.4	36	-F						D	
CULG	21	0217U	0241U	0346U	N18	W22	.547	15830	19.4	89D	-F		C	0241	80	1.0	T	
MITK	21	0228	0237	0253	N19	W22	.558	15830	19.5	25	-F		C	0237			D	
442 CULG	21	0235	0239	0257	N14	W10	.395	15830	20.4	22	-F		C	0239	10	.1		Y5
443 CULG	21	0433	0445	0510	N10	W50	.795	15836	17.4	37	-F		C	0445	60	1.1		Y5
444 CULG	21	0609	0623	0653	S16	W39	.632	15827	18.3	44	-F		C	0623	40	.5		Y5
445 CULG	21	0719E	0738	0748	N25	E30	.686	15837	23.6	29D	-F		C	0738	40	.6		Y5
446 CULG	21	0727	0740	0754	N18	W18	.511	15830	20.0	27	-N		C	0740	70	.8	F	Y5
447 KHAR	21	0900E		0915D	N24	E18	.583	15837	22.7	15D	-F		P	0904	65	.8	D	Y5
GRP72448	21	0931+1	0934	0939D	N16	W30	.610	15830	19.1	8	-N						EH	
KHAR	21	0931E		1032D	N17	W29	.608	15830	19.2	61D	1N		P	0937	220	2.9	HT	
HTPR	21	0932	0934	0939	N16	W31	.621	15830	19.1	7	-F		C	0934	60	.7	E	
449 KHAR	21	1040E		1048D	N18	W28	.606	15830	19.3	8D	-F		V	1040			EHT	Y5
450 KHAR	21	1057E	1059	1102D	N17	W30	.618	15830	19.2	5D	-F		V	1050			HT	Y5
GRP72451	21	1107+0	1108+0	1111	N16	W31	.621	15830	19.1	4	-N						DH	
KHAR	21	1107E	1108	1111D	N16	W31	.621	15830	19.1	4D	-N		P	1108			DHT	
HTPR	21	1107	1108	1110	N16	W32	.632	15830	19.1	3	-N		C	1108	70	.8		
GRP72452	21	1115+3	1127	1155	N17	W29	.608	15830	19.3	40	-N						EH	
KHAR	21	1115E		1205D	N18	W28	.606	15830	19.4	50D	1N		P	1124	250	3.1	EHT	
HTPR	21	1118	1127	1144	N17	W30	.618	15830	19.2	26	-F		C	1127	50	.6	E	
453 HTPR	21	1205	1217	1220	S27	W06	.354	15832	21.1	15	-F		C	1217	20	.2	E	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	
454 ZURI	21	1257	1259	1305	N15	W32	.624	15830	19.1	8	-N		C	1259	120	1.6	Y5
GRP72455	21	1333+1	1335+0	1343	N16	W32	.632	15830	19.2	10	-N				35	.4	
HTPR	21	1333	1335	1342	N16	W33	.642	15830	19.1	9	-N		C	1335	30	.3	
RAMY	21	1334	1335	1344	N17	W31	.629	15830	19.2	10	-B	3	C		35		
GRP72456	21	1414	1419+2	1440	N17	W28	.597	15830	19.5	26	-B						U
HTPR	21	1414	1419	1440	N18	W28	.606	15830	19.5	26	-B		C	1419	140	1.6	E
RAMY	21	1418E	1421U	1429D	N17	W28	.597	15830	19.5	11D	1B	3	V		311		U F
457 RAMY	21	1442	1443	1454	N17	W32	.639	15830	19.2	12	-B	3	C		25		Y5
GRP72458	21	1537+0	1538+3	1545	N16	W34	.653	15830	19.1	8	-F				25	.3	
HUAN	21	1537	1541	1547	N16	W34	.653	15830	19.1	10	-N		C	1541	30	.4	
HTPR	21	1537	1538	1543	N16	W34	.653	15830	19.1	6	-F		C	1539	20	.2	
GRP72459	21	1555+1	1557+2	1607	N16	W34	.653	15830	19.1	12	-N				70	.9	E
RAMY	21	1555E	1557	1613	N17	W32	.639	15830	19.3	18D	-B	3	C		60		
HTPR	21	1555	1558	1606	N16	W34	.653	15830	19.1	11	-N		C	1558	70	.8	
HUAN	21	1556	1559	1607	N15	W34	.646	15830	19.1	11	-N		C	1559	80	1.0	E
GRP72460	21	1627	1629 1634	1651	N18	W34	.667	15830	19.1	24	-B						F
RAMY	21	1627	1634	1651	N18	W34	.667	15830	19.1	24	-B	3	C		111		F
RAMY	21	1627	1629	1651	N18	W34	.667	15830	19.1	24	-B	3	C		68		F
	21	1713	1722	NO FLARE PATROL													
461 RAMY	21	1723	1726	1732D	N15	W30	.602	15830	19.5	9D	-B	3	C		34		Y5
	21	1732	1801	NO FLARE PATROL													
462 HUAN	21	1813		1827D	N15	W34	.646	15830	19.2	14D	-N		C	1815	55	.7	Y5
	21	1827	1853	NO FLARE PATROL													
463 RAMY	21	1853E	1905	1910D	N15	W30	.602	15830	19.5	17D	-B	3	C		41		Y5
	21	1910	1920	NO FLARE PATROL													
GRP72464	21	1939	1953	2129	N16	W30	.610	15830	19.6	110	-B						F
RAMY	21	1939	1953	2128	N15	W31	.613	15830	19.5	109	-B	3	C		126		F
CULG	21	2042E	2042E	2129U	N18	W30	.626	15830	19.6	47D	1N		P	2042	320	4.2	FT
GRP72465	21	2049+3	2053+0	2110	S20	W48	.746	15839	18.3	21	-F				40	.6	
CULG	21	2049	2053	2107	S20	W48	.746	15839	18.3	18	-F		C	2053	50	.8	
RAMY	21	2052	2053	2112	S21	W49	.758	15839	18.2	20	-N	3	C		28		
GRP72466	21	2113	2126+0	2132D	N04	W48	.757	15828	18.3	19	-F				30	.5	
RAMY	21	2113	2126	2132	N01	W48	.750	15828	18.3	19	-N	3	C		16		
CULG	21	2117E	2126	2234	N07	W48	.765	15828	18.3	77D	-F		C	2126	40	.6	
	21	2115	2117	NO FLARE PATROL													
467 CULG	21	2151	2152	2203	N18	W34	.667	15830	19.4	12	-N		C	2152	40	.5	T Y5
468 CULG	21	2202	2207	2214	N21	W56	.880	15823	17.7	12	-F		C	2207	20	.4	Y5
469 CULG	21	2304	2309	2320	N17	W36	.681	15830	19.3	16	-N		C	2309	30	.4	T Y5
	21	2342	2345	NO FLARE PATROL													
470 MANI	22	0005E	0005U	0011	N17	W34	.661	15830	19.5	6D	1B	3	C		250		Z Y5
GRP72471	22	0124+1	0126+4	0135	N16	W36	.675	15830	19.4	11	-B						DZ
MITK	22	0124	0126	0135	N16	W37	.686	15830	19.3	11	-B		C	0126			D
MANI	22	0125	0130	0135	N17	W35	.671	15830	19.4	10	1B	3	C		200		Z
472 CULG	22	0301	0311	0332	N20	W30	.643	15830	19.9	31	-F		C	0311	20	.3	Y5
473 CULG	22	0356	0359	0409	N23	E07	.513	15837	22.7	13	-F		C	0359	40	.5	Y5
474 CULG	22	0419	0422	0428	N18	W35	.678	15830	19.6	9	-F		C	0422	20	.3	Y5
475 CULG	22	0437	0441	0457	N18	W38	.709	15830	19.3	20	-F		C	0441	60	.8	Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP72476	22	0503+2	0507+3	0537	N18	W33	.657	15830	19.7	34	-B						UZ	
CULG	22	0503	0507	0546D	N20	W31	.653	15830	19.9	43D	-B		P	0507	110	1.4		
MANI	22	0505	0510	0527	N17	W36	.682	15830	19.5	22	1B	3	C		43D		Z U	
477 CULG	22	0531	0537	0544	S21	W51	.779	15839	18.4	13	-F		C	0537	20	.3		Y5
478 KANZ	22	0826	0826	0838	N17	W41	.733	15830	19.3	12	-F	2						Y5
GRP72479	22	0910+5	0914+3	0947	N17	W40	.723	15830	19.4	37	-B				80	1.1		
KHAR	22	0910E		09300	N17	W40	.723	15830	19.4	200	1N		P	0913	160	2.5	ET	
KANZ	22	0912	0917	1017	N17	W39	.713	15830	19.5	65	-B	2					F	
HTPR	22	0913	0914	0923	N17	W43	.753	15830	19.2	10	-B		C	0914	80	1.1	E	
MANI	22	0915	0917	0921	N16	W40	.717	15830	19.4	6	-B	3	C		60		F	
KHAR	22	0939E		10100	N18	W40	.729	15830	19.4	31D	-F		P	0949			T	
GRP72480	22	1012+1	1013+0	1020	N24	00	.516	15837	22.4	8	-F						E	
HTPR	22	1012	1013	1020	N25	W01	.531	15837	22.4	8	-F		C	1013	30	.3	E	
KANZ	22	1013	1013	1020	N24	E01	.516	15837	22.5	7	-F	2						
GRP72481	22	1119	1127	1257	N25	W48	.835	15823	18.9	98	2N						EU	
KANZ	22	1119	1127	1257	N25	W49	.843	15823	18.8	98	2N	3					U	
KHAR	22	1200E		1207D	N25	W48	.835	15823	18.9	7D	2F		P	1207	400	7.7	BE	
GRP72482	22	1151	1151	1221	N16	W42	.738	15830	19.3	30	-B							
RAMY	22	1151	1151	1221	N15	W40	.712	15830	19.5	30	-B	2	C		44		F	
KHAR	22	1200E		12070	N18	W44	.768	15830	19.2	7D	-F		P	1207	110	1.7	BET	
GRP72483	22	1214+6	1220+2	1238	N19	W65	.934	15823	17.6	24	-N						E	
RAMY	22	1214	1220	1242	N19	W65	.934	15823	17.6	28	-B	3	C		97			
KANZ	22	1216	1222	1238	N18	W64	.927	15823	17.7	20	-B	3						
HTPR	22	1220	1222	1228	N20	W68	.952	15823	17.4	8	-F		C	1222	30	.7	E	
GRP72484	22	1253+1	1255+2	1317	N17	W42	.743	15830	19.4	24	1B				180	2.6		
KANZ	22	1253	1257	1317	N17	W42	.743	15830	19.4	24	1N	*						
RAMY	22	1253	1255	1324	N15	W40	.712	15830	19.5	31	1B	*	C		233			
HTPR	22	1254	1256	1259	N17	W45	.772	15830	19.2	5	-B	*	C	1256	130	1.8		
GRP72485	22	1355	1358	1423	N15	W44	.753	15830	19.3	28	-N						E	
KANZ	22	1355	1358	1410	N15	W44	.753	15830	19.3	15	-N	2						
MCMA	22	1406E		1435	N16	W45	.768	15830	19.2	29D	-N		C	1406	50	.8	E	
486 MCMA	22	1526	1530	1555	N16	W45	.768	15830	19.3	29	-F		C	1530	40	.6	E	Y5
487 MCMA	22	1534	1537	1550	N10	W72	.960	15836	17.2	16	-F		C	1537	30		E	Y5
GRP72488	22	1556+2	1607+2	1633	N36	E43	.857	15840	25.9	37	-N				80	1.5	E	
MCMA	22	1556	1607	1633	N38	E44	.874	15840	26.0	37	-N		C	1607	50	1.0	E	
RAMY	22	1558	1609	1632	N35	E42	.846	15840	25.8	34	-B	3	C		114			
GRP72489	22	1622+3	1627+1	1647	N08	W72	.958	15836	17.3	25	-N				20		E	
MCMA	22	1622	1627	1645	N10	W72	.960	15836	17.3	23	-F		C	1627	20		E	
RAMY	22	1625	1628	1649	N07	W72	.957	15836	17.3	24	-B	3	C		16			
GRP72490	22	1631+2	1635+2	1722	N15	W44	.753	15830	19.4	51	-B				130	1.9	EHRX	
MCMA	22	1631	1635	1735	N16	W46	.778	15830	19.2	64	1B		C	1635	110	2.0	EHRX	
RAMY	22	1633	1637	1709	N15	W42	.733	15830	19.5	36	-B	3	C		164			
GRP72491	22	1710+3	1715+1	1736	N20	W68	.952	15823	17.6	26	-B				70		D	
MCMA	22	1710	1716	1735	N21	W70	.962	15823	17.5	25	1B		C	1716	50	2.0	D	
RAMY	22	1713	1715	1737	N19	W67	.945	15823	17.7	24	-B	3	C		86			
492 RAMY	22	1808	1810	1847	N15	W43	.743	15830	19.5	39	-B	3	C		104		FDE	Y5
493 RAMY	22	1857	1859	1923	N15	W43	.743	15830	19.6	26	1B	3	C		198		FDE	Y5
494 RAMY	22	1948	1948	2014	N19	W69	.955	15823	17.7	26	-N	3	C		11			Y5
	22	1957	2003	NO FLARE PATROL														
	22	2021	2027	NO FLARE PATROL														
	22	2048	2049	NO FLARE PATROL														
	22	2051	2111	NO FLARE PATROL														
	22	2137	2144	NO FLARE PATROL														
495 CULG	22	2151	21520	21520	N22	W80	.994	15823	16.9	1D	-F		P	2152	30			Y5
	22	2152	2237	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.		
496 CULG	22	2246	2256	2309	N21	W75	.981	15823	17.3	23	-F		C	2256	30			Y5
497 CULG	22	2306	2312	2326	N22	W41	.761	15830	19.9	20	-N		C	2312	90	1.4		Y5
498 CULG	22	2354	2402	0017	N18	W37	.698	15830	20.2	23	-F		C	2402	60	.8		Y5
GRP72499	23	0000+1	0007+1	0014D	N22	W73	.975	15823	17.5	14	-B				30		D	
CULG	23	0000	0008	0023	N22	W75	.981	15823	17.4	23	-N		C	0008	30			
VORO	23	0001	0007	0014	N20	W76	.983	15823	17.3	13	-B		C	0007	27		D	
CULG	23	0018	0029	0050	N25	W67	.954	15823	18.0	32	1F		C	0029	70			
GRP72500	23	0002+0	0006+0	0023	N17	W51	.828	15830	19.2	21	-N				110	1.9	DK	
CULG	23	0002	0006	0032	N18	W50	.823	15830	19.3	30	-N	*	C	0006	80	1.4		
VORO	23	0002	0006	0013	N16	W52	.833	15830	19.1	11	1N	*	C	0006	152	2.7	DK	
501 CULG	23	0033	0039	0051	N19	W50	.827	15830	19.3	18	-F		C	0039	60	1.0		Y5
502 CULG	23	0040	0043	0055	S15	W61	.868	15827	18.5	15	-F		C	0043	30	.7		Y5
GRP72503	23	0052+6	0101+2	0138	N17	W51	.828	15830	19.2	46	-N						EK	
CULG	23	0052	0103	0138	N19	W50	.827	15830	19.3	46	-F		C	0103	70	1.2	T	
VORO	23	0058	0101	0137	N16	W52	.833	15830	19.1	39	1N		C	0101	161	2.8	EK	
GRP72504	23	0109+2	0117+1	0132	N22	W42	.770	15830	19.9	23	1F				190	2.9	EH	
CULG	23	0109	0118	0136	N23	W42	.776	15830	19.9	27	1F		C	0118	180	2.9		
VORO	23	0111	0117	0128	N22	W43	.779	15830	19.8	17	1N		C	0117	197	3.1	EH	
505 VORO	23	0227	0229	0240	N16	W52	.833	15830	19.2	13	?B		C	0229	125	2.2	D	Y5
	IMP.1 NO : CULG																	
GRP72506	23	0426	0441 0542	0554	N19	W47	.800	15830	19.7	88	-N						F	
CULG	23	0426	0441	0524	N20	W43	.769	15830	20.0	58	-N		C	0441	110	1.8	F	
CULG	23	0518	0542	0554	N19	W52	.843	15830	19.3	36	-N		C	0542	80	1.5	T	
507 CULG	23	0558	0638	0720	N19	W53	.851	15830	19.3	82	-N		C	0638	80	1.5	KT	Y5
508 CULG	23	0636	0638	0648	N21	W77	.986	15823	17.5	12	-N		C	0638	40			Y5
509 MANI	23	0823E	0835	0846D	N17	W55	.861	15830	19.2	260	-N	3	C		30			Y5
510 KANZ	23	0929	0932	0936	N16	W56	.866	15830	19.2	7	-F	1						Y5
	23	1020	1023	NO FLARE PATROL														
511 ABST	23	1038	1040	1046	N16	W55	.858	15830	19.3	8	-F		C	1040	96	1.8	E	Y5
	23	1125	1145	NO FLARE PATROL														
GRP72512	23	1252+2	1252+6	1259	N15	W54	.847	15830	19.5	7	-N							
RAMY	23	1252	1252	1255	N16	W52	.833	15830	19.6	3	-B	3	C		18			
KANZ	23	1254	1258	1302	N15	W56	.864	15830	19.3	8	-F	1						
513 KANZ	23	1349	1403	1417	N16	W57	.874	15830	19.3	28	-N	2						Y5
GRP72514	23	1451+1	1453+3	1506	N16	W53	.842	15830	19.6	15	1B				220	3.9	F	
KANZ	23	1451	1456	1506	N15	W56	.864	15830	19.4	15	1B	2						
HOLL	23	1452	1453	1502	N17	W53	.845	15830	19.6	10	1B	3	C		163		F	
HOLL	23	1452	1453	1502	N17	W48	.801	15830	20.0	10	-B	3	C		121		F	
RAMY	23	1454E	1454	1507	N16	W53	.842	15830	19.6	13D	1B	3	C		168			
GRP72515	23	1534>9	1621+0 1630	1745	N16	W54	.850	15830	19.6	131	-B						EH	
HOLL	23	1534	1621	1747	N17	W54	.853	15830	19.6	133	-B	3	C		139		FDE	
HOLL	23	1534	1630	1747	N17	W54	.853	15830	19.6	133	-N	3	C		95		FDE	
RAMY	23	1619	1621	1626	N16	W54	.850	15830	19.6	7	-B	3	C		29			
RAMY	23	1725	1735	1742	N16	W55	.858	15830	19.6	17	-B	3	C		97		DE H	
GRP72516	23	1805>9	1805 1930+0	1851	N17	W55	.861	15830	19.6	46	1B				220	4.2		
RAMY	23	1805	1805	1824	N16	W55	.858	15830	19.6	19	-N	3	C		35			
HOLL	23	1815	1830	1833D	N17	W54	.853	15830	19.7	18D	1B	3	C		157		F	
RAMY	23	1825	1830	1849	N16	W55	.858	15830	19.6	24	1B	3	C		278		DE	
PALE	23	1838E	1838U	1852	N18	W62	.914	15830	19.1	14D	1B	2	V		132		DE	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP72517	23	1849+7	1920+1	1936D	N17	W59	.892	15830	19.4	47	-N				50	1.1	
RAMY	23	1849	1921	2017	N16	W56	.866	15830	19.6	88	-B	3	C		47		
PALE	23	1856	1920	1936	N18	W62	.914	15830	19.1	40	-N	2	C		64		DE
	23	1900	1911	NO FLARE PATROL													
GRP72518	23	1938	1953+2 2041	2103	N17	W58	.884	15830	19.5	85	-N				60	1.2	F
HOLL	23	1938	1953	2057	N17	W55	.861	15830	19.7	79	-B	3	C		80		
PALE	23	1945E	1955U	2118D	N18	W63	.921	15830	19.1	93D	-N	2	C		40		F
RAMY	23	2032	2051	2056	N16	W56	.866	15830	19.7	24	-B	3	C		19		
CULG	23	2037	2041	2109	N18	W60	.901	15830	19.4	32	-F		C	2041	30		
519 CULG	23	2056	2059	2107	S17	W78	.972	15827	18.0	11	-F		C	2059	20		Y5
	23	2247	0000	NO FLARE PATROL													
	23	0417	0426	NO FLARE PATROL													
GRP72520	24	0140	0146	0154	N17	W65	.931	15830	19.2	14	-N				60		D
CULG	24	0140	0146	0155	N17	W64	.925	15830	19.3	15	-F		C	0146	60		
VORO	24	0146E		0152	N17	W66	.937	15830	19.1	6D	-B		P	0146	72		D
521 CULG	24	0302	0317	0346	N17	W65	.931	15830	19.3	44	-F		C	0317	60		Y5
522 CULG	24	0629E	0630U	0656	S27	W46	.742	15832	20.8	27D	-F		P	0630	20	.2	Y5
523 KHAR	24	1020E		1045D	N17	W90	1.001	15823	17.7	25D	-F		P	1025			HT Y5
GRP72524	24	1023+0	1029+2	1045	N16	W65	.929	15830	19.6	22	-F						E
ZURI	24	1023	1029	1035	N15	W65	.928	15830	19.6	12	-N		C	1029	30		
KANZ	24	1023	1031	1050	N16	W64	.923	15830	19.6	27	-F	1					
KHAR	24	1028E		1045D	N18	W70	.959	15830	19.2	17D	-F		P	1032	75		E
525 KHAR	24	1032E		1032D	S26	W47	.749	15832	20.9		-F		P	1032	65	.9	D Y5
GRP72526	24	1105E		1108D	N19	W86	1.000	15823	18.0	3	-F						
KHAR	24	1105E		1108D	N22	W85	.999	15823	18.1	3D	-F		P	1108	45		D
KHAR	24	1105E		1108D	N17	W88	1.000	15823	17.9	3D	-F		P				T
GRP72527	24	1207+1	1207+2	1212	N16	W66	.935	15830	19.6	5	-B						D
KANZ	24	1207	1207	1212	N17	W67	.942	15830	19.5	5	-B	2					D
RAMY	24	1208	1209	1212	N16	W65	.929	15830	19.6	4	-B	3	C		17		
GRP72528	24	1233+2	1238+3	1302	N16	W67	.941	15830	19.5	29	-N						
KANZ	24	1233	1238	1302	N16	W69	.952	15830	19.3	29	-N	2					
RAMY	24	1235	1241	1301	N16	W65	.929	15830	19.6	26	-B	3	C		26		
GRP72529	24	1333+0	1333+0	1338	N16	W65	.929	15830	19.7	5	-F						
KANZ	24	1333	1333	1339	N17	W66	.937	15830	19.6	6	-F	2					
RAMY	24	1333	1333	1336	N16	W65	.929	15830	19.7	3	-N	3	C		20		
GRP72530	24	1339+2	1343+0	1347	S27	W48	.762	15832	21.0	8	-F						D
KANZ	24	1339	1343	1347	S27	W47	.752	15832	21.0	8	-F	2					
HUAN	24	1341	1343	1347	S28	W50	.783	15832	20.9	6	-N		C	1343	20	.3	D
GRP72531	24	1350+2	1353+1	1400	N17	W72	.966	15830	19.2	10	-N						
KANZ	24	1350	1354	1400	N17	W71	.962	15830	19.3	10	-B	2					
HUAN	24	1352	1353	1400	N18	W74	.975	15830	19.0	8	-N		C	1353	30		
GRP72532	24	1436+0	1437	1440	S19	E66	.907	15849	98.6	4	-F						
RAMY	24	1436	1437	1440	S21	E65	.900	15849	1.5	4	-N	3	C		24		
HUAN	24	1436		1440	S18	E68	.920	15849	1.7	4	-F		C				
GRP72533	24	1547+0	1547+2	1558	N16	W70	.956	15830	19.4	11	-B				30		
HUAN	24	1547	1549	1555	N18	W74	.975	15830	19.1	8	-N		C	1549	30		
RAMY	24	1547	1547	1558	N16	W70	.956	15830	19.4	11	-B	3	C		26		
HOLL	24	1547	1547	1558	N16	W60	.897	15830	20.2	11	-B	3	C		29		
GRP72534	24	1636+0	1637+1 1651	1656	N17	W71	.962	15830	19.4	20	-N				30		
RAMY	24	1636	1637	1656	N16	W68	.946	15830	19.6	20	-B	3	C		34		
HUAN	24	1636	1638	1642	N18	W75	.979	15830	19.1	6	-N		C	1638	25		D
HUAN	24	1648	1651	1655	N18	W75	.979	15830	19.1	7	-N		C	1651	20		D
GRP72535	24	1724+0	1726+1	1731	N17	W71	.962	15830	19.4	7	-N				35		
HUAN	24	1724	1727	1730	N18	W75	.979	15830	19.1	6	-N		C	1727	35		
RAMY	24	1724	1726	1731	N16	W68	.946	15830	19.6	7	-B	3	C		28		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
536 RAMY	24	1933	1934	1937	S20	W13	.309	15844	23.8	4	-N	3	C		21		Y5
GRP72537	24	2025+0	2026+0	2029	N17	W69	.953	15830	19.7	4	-B				20		D
HUAN	24	2025		2029	N18	W85	.999	15830	18.5	4	-N		C	2026	20		D
RAMY	24	2025	2026	2028	N16	W69	.952	15830	19.7	3	-B	*	C		23		
HOLL	24	2025	2026	2030	N17	W69	.953	15830	19.7	5	-B	*	C		28		
GRP72538	24	2029+1	2030+2	2040	S27	E12	.389	15838	25.8	11	-N				40	.4	F
HOLL	24	2029	2031	2043D	S25	E09	.339	15836	25.5	14D	-N	3	C		50		F
RAMY	24	2030	2030	2037	S28	E13	.410	15838	25.8	7	-N	3	C		28		F
HUAN	24	2030	2032	2040	S27	E12	.389	15838	25.8	10	-F		C	2032	40	.4	E
GRP72539	24	2058+2	2100 2110	2120	N17	W72	.966	15830	19.5	22	-F						
CULG	24	2058E	2100U	2115	N17	W75	.978	15830	19.2	17D	-F		P	2100	20		
HOLL	24	2100	2110	2124	N17	W69	.953	15830	19.7	24	-N	3	C		40		
GRP72540	24	2140	2140	2206	S26	E10	.361	15838	25.7	26	-N						F
HOLL	24	2140	2140	2157	S25	E09	.339	15838	25.6	17	-N	3	C		35		F
CULG	24	2149E	2149E	2214	S28	E12	.403	15838	25.8	25D	-F		P	2149	40	.4	
541 HOLL	24	2149	2150	2155	N11	E63	.908	15847	1.6	6	-N	3	C		20		Y5
542 CULG	24	2227	2250U	2257	N18	W77	.985	15830	19.2	30	-F		C	2250	30		Y5
GRP72543	24	2314E	2338 2421	0108D	N20	W66	.942	15830	20.0	114	1F						
MITK	24	2314E	2338	0108	N20	W64	.930	15830	20.2	114D	1F		C	2338	130		
CULG	24	2338U	2421U	0250U	N20	W68	.952	15830	19.9	192D	1F		C	2421	140		
544 CULG	24	2348	2353	0008	S27	E07	.358	15838	25.5	20	-F		C	2353	40	.4	Y5
545 CULG	25	0212	0223	0240	N07	E80	.988	15847	3.1	28	-F		C	0223	60		Y5
546 CULG	25	0223	0227	0241	S26	E06	.337	15838	25.5	18	-F		C	0227	40	.4	Y5
547 CULG	25	0318	0324U	0345	S25	E53	.805	15849	1.1	27	?F		P	0324	200	3.4	G Y5
	IMP.1 NO : MITK																
548 CULG	25	0604	0616	0625	N18	W83	.997	15830	19.0	21	-N		C	0616	30		Y5
GRP72549	25	0638	0652	0719D	S20	E60	.861	15849	98.8	41	1N				180	3.7	F
MITK	25	0638		0654D	S20	E63	.885	15849	2.0	16D	1N		P	0654	210	4.6	
MANI	25	0643E	0652	0719D	S20	E58	.844	15849	1.6	36D	1B	3	C		150		F
550 KANZ	25	0739E		0852	S19	E58	.843	15849	1.7	73D	1N	1					F Y5
551 KANZ	25	0845	0848	0852	N16	W76	.981	15830	19.7	7	-F	1					Y5
	25	1214	1226	NO FLARE PATROL													
	25	0935	0942	NO FLARE PATROL													
	25	0950	1032	NO FLARE PATROL													
GRP72552	25	1427+1	1427+2	1434	S25	E02	.308	15838	25.8	7	-N						
KANZ	25	1427	1427	1431D	S26	E04	.329	15838	25.9	4D	-F	1					
RAMY	25	1428	1429	1434	S25	E01	.307	15838	25.7	6	-B	3	C		68		
GRP72553	25	1438	1445	1452	N16	W82	.995	15830	19.5	14	-N						
RAMY	25	1438	1445	1453	N16	W78	.986	15830	19.8	15	-B	3	C				
HUAN	25	1445E		1451	N16	W87	1.000	15830	19.1	6D	-N		C	1445	30		C
554 HUAN	25	1612		1620	S33	W07	.449	15851	25.2	8	-F		C				Y5
GRP72555	25	2010+4	2014+1 2024	2028	S16	W38	.618	15834	23.0	18	-F				20	.3	
BIGB	25	2010	2015	2028	S17	W38	.621	15834	23.0	18	-N	*	C	2015	20	.2	
HOLL	25	2012	2024	2033	S14	W44	.691	15834	22.5	21	-N	3	C		33		F
RAMY	25	2014	2014	2018	S16	W37	.605	15834	23.1	4	-F	*	C		20		
HUAN	25	2014		2015D	S16	W38	.618	15834	23.0	1D	-F	*	P				E
556 PALE	25	2032	2032	2040	S33	W08	.452	15851	25.3	8	-F	3	C		30		DE F Y5
GRP72557	25	2047+3	2052+1	2102	S20	E52	.787	15849	98.8	15	-N				40	.7	
BIGB	25	2047	2053	2102	S20	E53	.797	15849	1.8	15	-N	2	C	2053	50	.6	
HOLL	25	2049	2052	2104	S21	E51	.779	15849	1.7	15	-N	3	C		36		
RAMY	25	2050	2053	2100	S20	E52	.787	15849	1.8	10	-N	3	C		23		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
558 HOLL	25	2122	2129	2146	S20	W28	.500	15844	23.8	24	-N	3	C		37		F	Y5
GRP72559	25	2156>9	2209+4	2237	S21	E86	.994	15850	1.4	41	-N						F	
BIGB	25	2156	2213	2246	S21	E90	.999	15850	4.7	50	1N	2	C	2213	70			
HOLL	25	2206	2209	2228	S22	E83	.987	15850	4.1	22	-N	3	C				F	
560 BIGB	25	2223	2241	2254	N38	E08	.716	15840	26.5	31	-F	2	C	2241	30	.3		Y5
561 BIGB	25	2315	2317	2322	N40	W02	.734	15840	25.8	7	-F	3	C	2317	30	.3		Y5
GRP72562	26	0252+0	0252+2	0305	N17	W83	.997	15830	19.9	13	-N				20		F	
CULG	26	0252E	0252E	0312	N18	W87	1.000	15830	19.6	200	-N		P	0252	20		B	
PALE	26	0252	0254	0257	N17	W79	.989	15830	20.2	5	-N	3	C		23		F	
563 CULG	26	0307	0310	0318	S25	E77	.967	15850	3.9	11	-N		C	0310	40			Y5
564 CULG	26	0344	0352	0428	S32	W12	.458	15851	25.3	44	-N		C	0352	90	1.0		Y5
GRP72565	26	0544	0557	0640	S20	E48	.745	15849	98.8	56	-N						E	
CULG	26	0544	0557	0640	S20	E48	.745	15849	1.8	56	-N		C	0557	90	1.4		
ABST	26	0619E	0619	0621D	S21	E48	.747	15849	1.9	2D	1F		P	0619	166	2.6	E	
566 KAND	26	0814E		0838	N15	W90	1.001	15830	19.6	24D	-N		C					Y5
567 KAND	26	0903		0918	S33	W15	.490	15851	25.3	15	-F		C		52			Y5
568 ISTA	26	0943E		0945	S24	E74	.954	15850	4.0	2D	-F						D	Y5
569 KHAR	26	1014E		1031D	N17	W90	1.001	15830	19.7	17D	-F		P	1019			DHT	Y5
GRP72570	26	1045+1	1047+3	1056	S22	W25	.474	15838	24.6	11	-F				80	.9	E	
CATA	26	1045	1050	1050D	S23	W25	.481	15838	24.6	5D	-N	2	P	1050	84	.9		
ZURI	26	1045	1047	1053	S22	W26	.487	15838	24.5	8	-F		C	1047	100	1.2		
MONT	26	1046	1047	1058	S22	W25	.474	15838	24.6	12	-F		C	1047	50		E	
GRP72571	26	1050>9	1103+2	1122	S24	E69	.927	15850	.6	32	1F				130		D	
KHAR	26	1050E	1103	1130D	S26	E72	.944	15850	3.9	40D	1F		P	1110	130		D	
ZURI	26	1103	1105	1113	S23	E66	.907	15850	3.4	10	-F		C	1105	140			
GRP72572	26	1115+2	1116+6	1133	N16	W68	.946	15830	21.4	18	1N				110		DGH	
KHAR	26	1115E	1116	1137D	N18	W68	.949	15830	21.4	22D	1N		P	1118	140		DH	
ZURI	26	1117	1117	1133	N14	W68	.944	15830	21.4	16	1N		C	1117	90			
MONT	26	1117	1122	1129	N16	W69	.952	15830	21.3	12	-N		C	1122	110		G	
573 KHAR	26	1145E		1200D	S26	E72	.944	15850	3.9	15D	-F		P	1145			D	Y5
574 KHAR	26	1148E		1156D	N17	W90	1.001	15830	19.7	8D	-F		P	1148			HT	Y5
575 MONT	26	1227	1234	1253	S32	W15	.477	15851	25.4	26	-F		C	1234	60		E	Y5
	26	1551	1611	NO FLARE PATROL														
576 BIGB	26	1638	1639	1655	S31	W31	.609	15838	24.4	17	-N	1	C	1639	30	.5	E	Y5
577 PALE	26	1735	1739	1751	S25	E63	.887	15850	3.5	16	-N	3	C		26		DE	Y5
578 PALE	26	1800	1801	1824	S25	E63	.887	15850	3.5	24	-N	3	C		35		DE	Y5
GRP72579	26	1850+3	1852+1	1909	N07	E87	.999	15855	2.3	19	-F							
MCMA	26	1850E	1852	1857	N09	E90	1.000	15855	5.5	7D	-F		C	1852				
RAMY	26	1853	1853	1920D	N05	E84	.996	15855	5.1	27D	-F	3	C					
GRP72580	26	1900+8	1906+4	1918	S23	E68	.920	15850	.9	18	-N				30		E	
BIGB	26	1900	1923	1928	S13	E70	.933	15850	4.0	28	-N	2	C	1923	10			
RAMY	26	1903	1906	1919	S27	E68	.922	15850	3.9	16	-B	3	C		20			
MCMA	26	1905	1910	1915	S23	E68	.920	15850	3.9	10	-N		C	1910	50	1.4	E	
PALE	26	1908	1909	1916	S24	E67	.914	15850	3.8	8	-N	3	C		22		DE	
GRP72581	26	1923+2	1924+2	1935	S24	E68	.921	15850	.9	12	-N				50		E	
MCMA	26	1923	1925	1933	S23	E68	.920	15850	3.9	10	-N		C	1925	50	1.4	E	
BIGB	26	1923	1924	1937	S23	E69	.927	15850	4.0	14	1N	2	C	1924	130			
RAMY	26	1924	1926	1937	S27	E68	.922	15850	3.9	13	-3	3	C		55			
PALE	26	1925	1926	1929	S25	E63	.887	15850	3.5	4	-N	3	C		30		DE	
582 BIGB	26	1941	1942	1957	N07	E90	1.000	15855	5.6	16	-N	3	C	1942	40			Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg.	
GRP72583	26	1955>9	2013+5 2028	2046	S26	E67	.915	15850	.9	51	-N						
BIGB	26	1955	2018	2046	S25	E68	.921	15850	3.9	51	1N	*	C	2018	150		
RAMY	26	2011	2013	2015	S27	E67	.916	15850	3.9	4	-N	*	C		13		
RAMY	26	2025	2028	2032D	S27	E66	.909	15850	3.8	7D	-N	*	C		13		
GRP72584	26	2000+1	2002+1	2009	S21	E42	.680	15849	99.0	9	-N				20	.3	D
BIGB	26	2000	2003	2007	S21	E42	.680	15849	2.0	7	-N	3	C	2003	20	.3	
HUAN	26	2000		2010	S19	E42	.675	15849	2.0	10	-F		P	2002	15	.2	D
RAMY	26	2001	2002	2009	S22	E40	.660	15849	1.8	8	-N	3	C		34		
GRP72585	26	2029+1	2031	2033D	S20	E40	.654	15849	98.9	4	-F				35	.5	D
HUAN	26	2029E		2033D	S19	E42	.675	15849	2.0	4D	-F		P	2032	20	.2	D
RAMY	26	2030	2031	2032D	S22	E38	.636	15849	1.7	2D	-N	3	C		49		
586 BIGB	26	2056	2100	2111	N11	E38	.669	15847	1.7	15	-N	2	C	2100	140	1.8	G Y5
587 BIGB	26 IMP.1 NO : CULG	2109	2125	2125D	S25	E68	.921	15850	4.0	16D	?N	3	C	2125	130		Y5
588 HOLL	26	2201E	2205U	2238	S23	E83	.987	15856	5.1	37D	-N	2	C				Y5
589 HOLL	26	2242	2246	2254	S23	E65	.901	15850	3.8	12	-N	2	C				Y5
590 HOLL	26	2309	2311	2326	S23	E65	.901	15850	3.8	17	-N	2	C				Y5
591 HOLL	26	2333	2333	2338	S23	E65	.901	15850	3.9	5	-N	2	C				Y5
592 CULG	27	0205	0209	0220	N33	E13	.670		28.1	15	-F		C	0209	20	.3	Y5
593 CULG	27	0336	0339	0407	S12	W60	.859	15834	22.7	31	-F		C	0339	60	1.2	Y5
594 CULG	27	0419	0421	0433	N10	E33	.603	15847	1.7	14	-F		C	0421	30	.4	Y5
595 CULG	27	0553	0603	0632	N12	E33	.616	15847	1.7	39	-N		C	0603	100	1.3	F Y5
596 CULG	27	0626	0627	0633	S26	W33	.596	15838	24.8	7	-F		C	0627	30	.4	Y5
597 ZURI	27 IMP.1 NO : MONT	0901	0907	0913 ABST	N09	E90	1.000	15855	6.1	12	?F		C	0907	200		Y5
GRP72598	27	1042+1	1043+6	1058	N18	W90	1.001	15830	20.7	16	1N						
KANZ	27	1042	1049	1104	N18	W90	1.001	15830	20.7	22	1N	2					
ZURI	27	1043	1043	1051	N18	W90	1.001	15830	20.7	8	1N		P	1043	80		
GRP72599	27	1535+1	1537+1	1541	S21	E86	.994	15856	3.1	6	-N						D
RAMY	27	1535	1538	1541	S22	E85	.992	15856	6.0	6	-N	3	C		20		
MCMA	27	1536	1537	1540	S20	E88	.997	15856	6.2	4	-N		C	1537			D
GRP72600	27	1632+3	1635+5	1703	S34	W32	.641	15851	25.3	31	-B				40	.5	F
MCMA	27	1632	1635	1705	S32	W32	.626	15851	25.3	33	-N	*	C	1635	40	.5	E
RAMY	27	1634	1637	1703	S36	W34	.674	15851	25.1	29	-B	*	C		112		F
HOLL	27	1635	1640	1647	S34	W32	.641	15851	25.3	12	-B	*	C		26		F
GRP72601	27	1634+0	1635+0	1644	S18	W06	.213	15852	27.2	10	-N				35	.4	D
RAMY	27	1634	1635	1644	S20	W06	.243	15852	27.2	10	-N	3	C		44		
MCMA	27	1634	1635	1644	S17	W07	.207	15852	27.2	10	-N		C	1635	25	.3	D
GRP72602	27	1834+0	1834+0	1841	S20	W07	.250	15852	27.2	7	-N				50	.5	F
RAMY	27	1834	1834	1843	S20	W07	.250	15852	27.2	9	-N	3	C		51		
HOLL	27	1834	1834	1839	S20	W07	.250	15852	27.2	5	-N	3	C		48		F
603 HOLL	27	1908	1908	1912	N36	W19	.728	15840	26.4	4	-N	3	C		22		Y5
GRP72604	27	2045+2	2047+0	2057	S18	W08	.231	15852	27.3	12	-N				50	.5	F
BIGB	27	2045	2047	2058	S17	W08	.217	15852	27.3	13	-N	2	C	2047	40	.4	
HOLL	27	2047	2047	2056	S20	W08	.258	15852	27.3	9	-N	3	C		61		F
GRP72605	27	2054	2102	2123	S18	W55	.815	15844	23.7	29	-N				90	1.6	
BIGB	27	2054	2102	2117	S18	W55	.815	15844	23.7	23	-N	2	C	2102	100	1.8	
CULG	27	2103E	2103U	2123	S18	W55	.815	15844	23.8	26D	-N		P	2103	80	1.4	
606 CULG	27	2157	2212	2241	N23	W70	.965	15837	22.7	44	-F		C	2212	20		Y5
607 HOLL	27	2243	2246	2255	S20	W09	.267	15852	27.3	12	-N	3	C		27		Y5
608 CULG	27	2245	2249	2308	N08	E74	.967	15855	5.5	23	-F		C	2249	20		Y5

Hα SOLAR FLARES

FEBRUARY 1979

OBSERVATORY	DATE	START	MAX. PHASE	END	LOCATION APPROX LAT.	LOCATION APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEASUREMENTS MEAS. AREA Mill. of Disk	MEASUREMENTS CORR AREA Sq. Deg.	REMARKS	
GRP72609	27	2335+0	2336+2 2345	2354	S18	W10	.251	15852	27.2	19	-N				70	.7	F	
BIGB	27	2335	2345	2353	S18	W10	.251	15852	27.2	18	-N	2	C	2345	80	.6		
CULG	27	2335	2338	0000	S18	W10	.251	15852	27.2	25	-N		C	2338	60	.6		
HOLL	27	2335	2336	2354	S20	W09	.267	15852	27.3	19	-B	2	C		80		F	
610 CULG	27	2351	2353	2358	N08	E73	.963	15855	5.5	7	-F		C	2353	20			Y5
GRP72611	28	0028+0	0033+1	0045	N08	E70	.948	15855	2.3	17	1B				130		F	
MITK	28	0028	0034	0042	N09	E70	.949	15855	5.3	14	1B		C	0034				
CULG	28	0028	0033	0049	N08	E72	.958	15855	5.4	21	1B		C	0033	120		T	
PALE	28	0032E	0034U	0045D	N08	E63	.904	15855	4.7	13D	1B	3	C		141		F	
612 CULG	28	0108	0116	0143	S18	W11	.262	15852	27.2	35	-N		C	011E	90	.9		Y5
613 CULG	28	0151	0203	0215	S18	W56	.824	15844	23.9	24	-F		C	0203	40	.7		Y5
GRP72614	28	0226+2	0228+0	0235	N07	E68	.935	15855	2.2	9	-N				45		F	
CULG	28	0226	0228	0237	N08	E71	.953	15855	5.4	11	-N		C	0228	50		T	
PALE	28	0228	0228	0233	N06	E66	.922	15855	5.1	5	-N	3	C		37		F	
615 CULG	28	0420	0428	0446	N08	E71	.953	15855	5.5	26	1N		C	0428	100		T	Y5
	28	0452	0511	NO FLARE PATROL														
616 CULG	28	0530	0536	0606	N22	W88	1.000	15837	21.6	36	-F		C	0536	30			Y5
GRP72617	28	0546	0556+1	0613D	S23	E51	.782	15850	1.1	27	1F				230	3.8	GL	
CULG	28	0546	0556	0725	S23	E52	.791	15850	4.1	99	1F		C	0556	260	4.2	FL	
ABST	28	0556E	0557	0613	S24	E51	.784	15850	4.1	17D	1F		P	0557	200	3.2	EG	
618 ABST	28	0556E	0559	0610	N08	E69	.942	15855	5.4	14D	?F		P	0559	96		D	Y5
	IMP.1 NO 1 CULG																	
619 CULG	28	0634	0702	0737	S22	E25	.474	15849	2.1	63	-F		C	0702	40	.5		Y5
GRP72620	28	0640E	0655	0708	N08	E66	.924	15855	2.2	28	-N							
ATHN	28	0640E	0655	0705	N08	E66	.924	15855	5.2	25D	-N	1		0655	49	1.1		
KAND	28	0656E	0656	0711	N08	E67	.930	15855	5.3	15D	-N		C					
GRP72621	28	0737+1	0743 0750	0803	N08	E68	.937	15855	2.4	26	-F							
KAND	28	0737	0743	0755	N08	E67	.930	15855	5.3	18	-N		C					
CULG	28	0738	0750	0810D	N08	E69	.942	15855	5.5	32D	-F		C	0750	60		T	
622 ISTA	28	0741E		0745	S19	E78	.972	15856	6.2	4D	-F						D	Y5
623 KAND	28	0809	0809	0826	N08	E67	.930	15855	5.4	17	-N		C					Y5
624 ABST	28	1019E	1036	1056D	S18	E46	.720	15850	3.9	37D	-F		P	1036	87	1.3	D	Y5
GRP72625	28	1318+4	1321+3	1344	N08	E62	.896	15855	2.2	26	-F							
RAMY	28	1318	1321	1345	N09	E62	.898	15855	5.2	27	-N	3	C		35			
ZURI	28	1322	1324	1342	N07	E63	.902	15855	5.3	20	-F		C	1324	100	2.5		
626 MCMA	28	1351E		1406	N09	E67	.932	15855	5.6	15D	-F		C	1351			EH	Y5
627 HOLL	28	1611	1741	1812	S24	E42	.689	15850	3.8	121	-N	*	C		34			Y5
GRP72628	28	1611+2	1614+1	1620	N08	E62	.896	15855	2.3	9	-N				20	.4		
RAMY	28	1611	1615	1620	N08	E62	.896	15855	5.3	9	-N	3	C		26			
HOLL	28	1613	1614	1620	N08	E63	.904	15855	5.4	7	-N	3	C		14			
629 HOLL	28	1628	1628	1635	S22	E70	.932	15856	5.9	7	-N	3	C		17			Y5
630 HOLL	28	1638	1651	1655	S22	E70	.932	15856	5.9	17	-N	3	C		16			Y5
631 RAMY	28	1650	1652	1656	S20	W19	.382	15852	27.3	6	-B	3	C		33			Y5
632 HOLL	28	1709	1712	1729	S22	E70	.932	15856	6.0	20	-N	3	C		18			Y5
GRP72633	28	1730+4	1735+0	1739D	S22	E70	.932	15856	3.0	9	-N							
HOLL	28	1730	1735	1818	S22	E70	.932	15856	6.0	48	-B	3	C		38			
BIGB	28	1734	1735	1739	S22	E71	.938	15856	6.1	5	-N	3	C	1735	10			
634 HOLL	28	1837	1840	1855	S22	E69	.926	15856	6.0	18	-N	3	C		17			Y5

Hα SOLAR FLARES

FEBRUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
635 CULG	28	2325	2335	2347	N08	E57	.856	15855	5.3	22	-F		C	2335	40	.8	Y5

Peking Hα Solar Flares for February 1979
(Received too late for Inclusion in Group Reports)

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PEKG	05	0125E	0130	0200	N09	W17	.388	15802	3.8	350	1N		P	0130	336	83.0	F
PEKG	05	0637	0640D	0659	S20	E49	.760		9.0	22	SB		P	0640	126	97.0	E
PEKG	06	0440	0456	0530	N16	E36	.670	15807	8.9	50	1N		C	0456	210	39.0	F
PEKG	06	0510	0520	0535	N16	E32	.626		8.6	25	SN		P	0520	63	40.0	E
PEKG	07	0352	0354	0410	S21	E27	.499	15812	9.2	18	1B		C	0354	210	22.0	E
PEKG	08	0201	0209	0300	S21	E14	.340	15812	9.1	59	1B		C	0209	252	34.0	EF
PEKG	08	0232	0244	0340	S20	E15	.340	15812	9.2	68	1N		C	0244	378	03.0	FZ
PEKG	08	0333	0335	0340	N13	E17	.435		9.4	7	SF		P	0335	63	35.0	D
PEKG	08	0345D	0415E	0430	N15	E09	.395		8.8	45D	SN		C	0415	84	46.0	E
PEKG	08	0640E	0706	0800D	N12	E16	.413	15807	9.5	80D	1B		C	0706	294	61.0	FZ
PEKG	09	0200	0245	0350	N13	E05	.345		9.5	110	SN		C	0245	105	56.0	D
PEKG	09	0734	0748	0804	N12	W05	.329	15807	8.9	30	1N		C	0748	210	11.0	F
PEKG	09	0754	0800	0804D	N13	W06	.349	15807	8.9	100	1B		C	0800	420	24.0	F
PEKG	10	0212	0214	0226	N18	W19	.514		8.7	8	SN		C	0214	84	48.0	E
PEKG	10	0320	0325	0330	N16	W14	.446		9.1	10	SN		P	0325	84	47.0	E
PEKG	10	0747	0803	0920	N18	W18	.505		9.0	93	SN		C	0803	126	73.0	F
PEKG	12	0129E	0145	0320	N17	W38	.700	15807	9.2	111D	2B		P	0150	421	95.0	F
PEKG	12	0214	0215	0240	S34	E26	.593		14.0	26	SN		P	0215	84	52.0	D
PEKG	12	0550	0555	0559	N15	E38	.688		15.1	9	SN		P	0555	126	87.0	E
PEKG	13	0150	0156	0205	S35	E17	.534		14.4	15	SN		C	0156	84	49.0	E
PEKG	13	0224E	0225	0235	S35	E15	.522		14.2	11D	SN		C	0225	63	36.0	E
PEKG	13	0445	0452	0504	S35	E12	.505		14.1	19	SB		C	0452	105	61.0	E
PEKG	13	0740E	0740	0800	S36	E10	.510		14.1	20D	SB		P	0740	126	73.0	E
PEKG	13	0743	0745	0756	N15	W58	.878		9.0	13	SN		C	0745	84	86.0	E
PEKG	14	0105	0111	0116	N17	E80	.991		20.0	11	SB		C	0111	63		D
PEKG	14	0135	0138	0142	N18	E47	.794		17.6	7	SN		C	0138	42	35.0	D
PEKG	14	0640	0645	0700	N15	W71	.959		9.0	20	SF		P	0645	42		D
PEKG	15	0140	0145	0155	N17	E33	.648		17.5	15	SF		P	0145	42	27.0	D
PEKG	15	0240	0245	0300	N16	E67	.940		20.1	20	SN		P	0245	84		E
PEKG	17	0005D	0030	0102	N19	E08	.455	15828	17.6	57D	1N		C	0030	252	41.0	F
PEKG	17	0129	0136	0155	N18	E07	.436		17.6	26	SB		C	0136	168	94.0	E
PEKG	17	0213	0216	0220	N18	E05	.429		17.5	7	SF		C	0216	42	23.0	E
PEKG	17	0225	0239	0334	N18	E05	.429	15828	17.5	69	1B		C	0239	505	78.0	FZ
PEKG	17	0256	0259	0306	N18	E37	.697		19.9	10	SN		C	0259	71	50.0	F
PEKG	17	0305E	0305	0305D	S24	W19	.422		15.7		SF		P	0305	34	19.0	D
PEKG	17	0405	0415	0428	N18	E06	.432		17.6	23	SN		C	0415	126	70.0	E
PEKG	17	0434	0439	0445	N18	E05	.429		17.6	11	SF		C	0439	46	25.0	E
PEKG	17	0533	0537	0600	N18	E05	.429		17.6	27	SN		C	0537	126	70.0	E
PEKG	17	0615	0624	0635	N19	E05	.444		17.6	20	SN		P	0624	42	23.0	D
PEKG	17	0644	0647	0658	N18	E05	.429		17.7	14	SN		C	0647	105	58.0	E
PEKG	17	0703	0707	0714	N19	E05	.444		17.7	11	SN		C	0707	63	35.0	E
PEKG	17	0805	0808	0822	N18	E04	.426		17.6	17	SF		P	0808	130	72.0	ET
PEKG	17	0810	0814	0824	N15	E34	.645		19.9	14	SB		C	0814	126	80.0	E
PEKG	18	0050	0054	0115	N17	E23	.545		19.8	25	SF		P	0054	126	76.0	E
PEKG	18	0143	0146	0150	N19	W07	.452		17.5	7	SN		C	0146	84	47.0	E
PEKG	18	0210	0213	0235	N17	E26	.575		20.0	25	SF		C	0213	84	51.0	E
PEKG	18	0240	0243	0250	N18	E21	.536		19.7	10	SN		C	0243	168	98.0	E
PEKG	18	0432	0435	0440	N18	E25	.575		20.1	8	SF		P	0435	42	25.0	D
PEKG	18	0640	0648	0712	N19	E17	.513	15830	19.6	32	1B		C	0648	294	72.0	F
PEKG	19	0056E	0058	0100	N17	E11	.444		19.9	40	SF		C	0058	84	47.0	E
PEKG	19	0056E	0059	0112	N15	W20	.494		17.5	16D	SN		C	0058	126	73.0	E
PEKG	19	0149	0152	0156	N18	W20	.528		17.6	7	SF		C	0152	50	30.0	E
PEKG	19	0348	0355	0407	N19	W21	.548		17.6	19	SN		P	0355	84	50.0	E
PEKG	19	0423	0425	0450	N19	W21	.548		17.6	27	SN		P	0425	105	62.0	E
PEKG	20	0428	0429	0431	N18	W11	.458		19.4	3	SF		C	0429	42	23.0	F
PEKG	20	0444	0450	0456D	N18	W08	.442	15830	19.6	12D	1N		C	0450	210	18.0	F
PEKG	20	0459	0504	0512	N17	W07	.422	15830	19.7	13	1B		C	0504	336	86.0	FU
PEKG	20	0528	0530	0532	N11	W42	.713		17.1	4	SF		C	0530	34	23.0	E
PEKG	20	0600	0601	0613	N18	W38	.708		17.4	13	SF		C	0601	46	32.0	E

Hα SOLAR FLARES

FEBRUARY 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
PEKG	20	0630	0631	0644	N17	W12	.451		19.4	14	SN		P	0631	126	71.0	E
PEKG	24	0015	0020	0021D	N15	W55	.856		19.9	6D	SN		P	0020	34	32.0	E
PEKG	24	0100	0103	0105	N14	W51	.818		20.2	5	SF		P	0103	21	18.0	D
PEKG	25	0643	0656	0724	S20	E61	.869	15849	1.9	41	2B		P	0702	420	30.0	FU
PEKG	26	0305D	0310	0312	S25	E78	.971		4.0	7D	SN		P	0310	50		E
PEKG	26	0342	0350	0409	S32	W12	.458		25.3	27	SF		C	0350	126	71.0	E
PEKG	26	0552	0612	0622	S19	E48	.744		1.8	30	SF		P	0612	84	62.0	E
PEKG	27	0601E	0602	0610	N12	E31	.592		1.6	9D	SF		P	0602	126	78.0	E
PEKG	27	2345E	2345	2347	S18	W10	.251		27.2	2D	SN		P	2345	84	44.0	E
PEKG	28	0025	0035	0042	N19	E70	.949	15855	5.3	17	1B		C	0035	168		E
PEKG	28	0405	0427	0441	N08	E69	.942	15855	5.3	36	1N		C	0427	135		E
PEKG	28	0647	0656	0705	N07	E67	.929		5.3	18	SN		C	0656	63		E
PEKG	28	0738	0739	0740	S20	E80	.979		6.3	2	SF		P	0739	29		D

Editor's Note: Peking Observatory data, though received too late for complete data processing, are included here as a supplemental list to the grouped flare data. These Peking data present additional valuable information on solar flare occurrences.

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

FEBRUARY 1979

DAILY FLARE INDICES
Includes all Flares

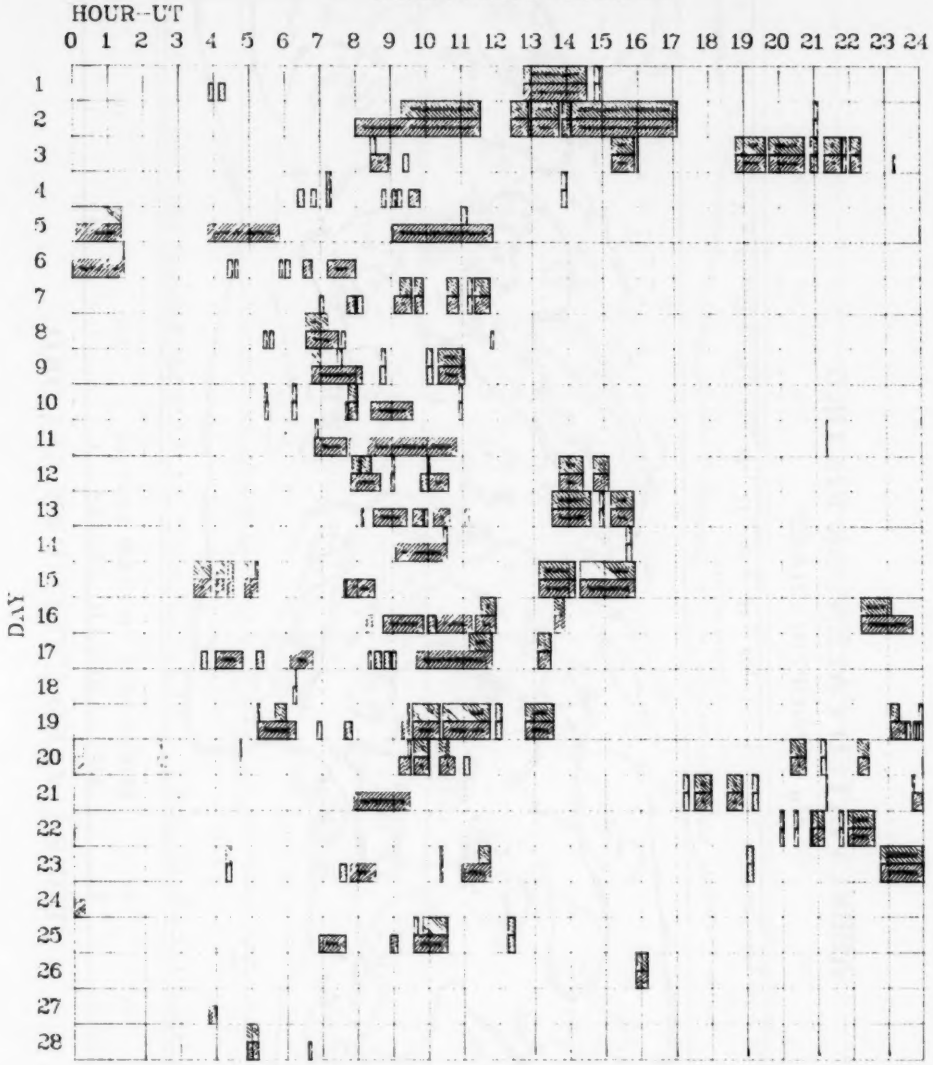
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790201	583.14	22.1	790211	267.79	23.9	790224	39.60	24.0
790202	241.80	17.1	790212	181.98	22.3	790225	59.15	23.0
790203	61.56	20.2	790213	110.31	22.2	790226	51.52	23.7
790204	83.98	23.8	790214	52.00	23.8	790227	37.80	24.0
790205	331.78	22.6	790215	75.82	20.4	790228	72.11	23.7
790206	122.23	24.0	790216	522.29	22.4	790221	89.16	22.7
790207	113.93	22.5	790217	289.92	23.0	790222	238.87	22.6
790208	485.57	23.4	790218	288.50	24.0	790223	99.79	22.1
790209	686.32	22.6	790219	249.14	19.9			
790210	93.90	23.5	790220	252.50	22.2			

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

FEBRUARY 1979



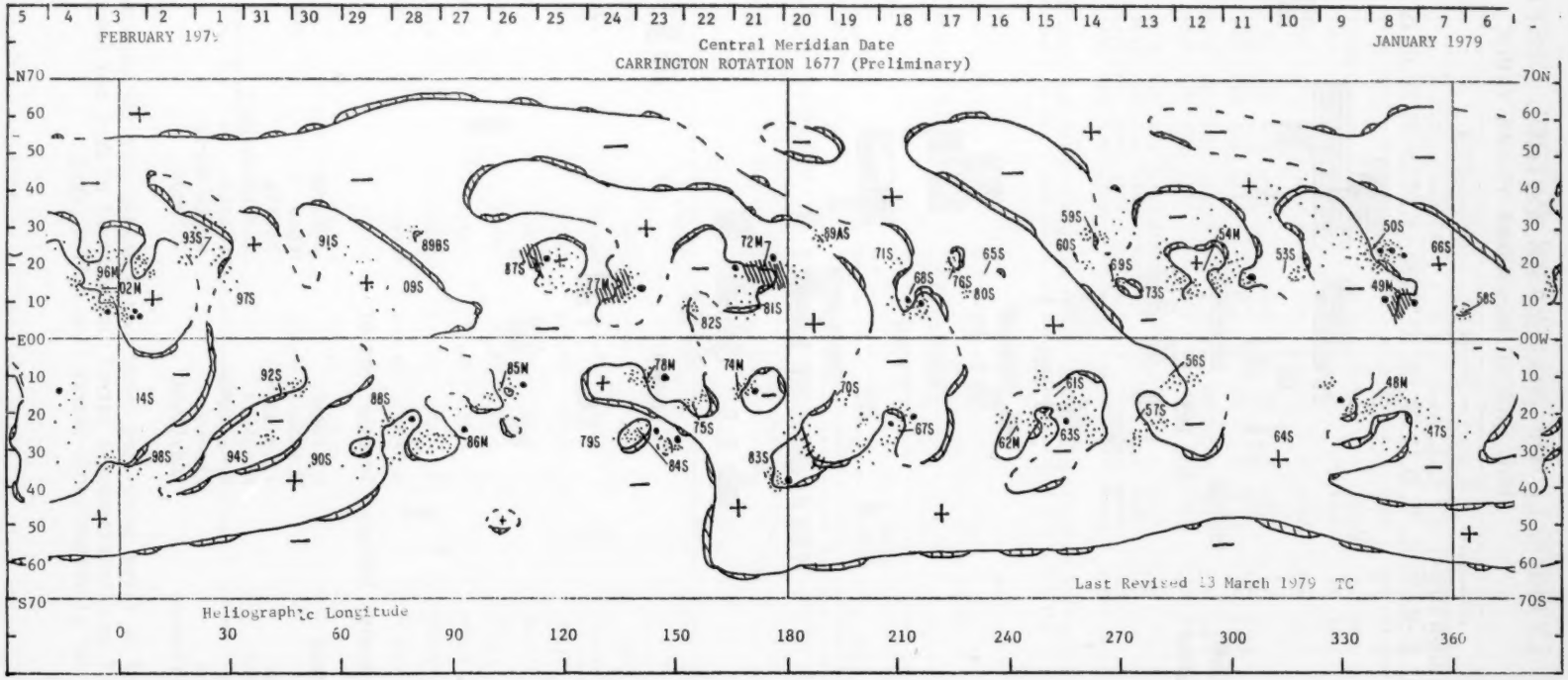
Observatories included in total patrol:

Abastumani	Holloman	Locarno	Peking
Athenes	Huancayo	Lvov	Ramey
Big Bear	Istanboul	Manila	Tashkent
Bucharest	Kandilli	McMath-Hulbert	Upice
Catania	Kanzelhohe	Mitaka	Voroshilov
Culgoora	Kharkov	Monte Mario	Wendelstein
Haute Provence	Kodaikanal	Palehua	Zurich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

ABBREVIATED CALENDAR RECORD

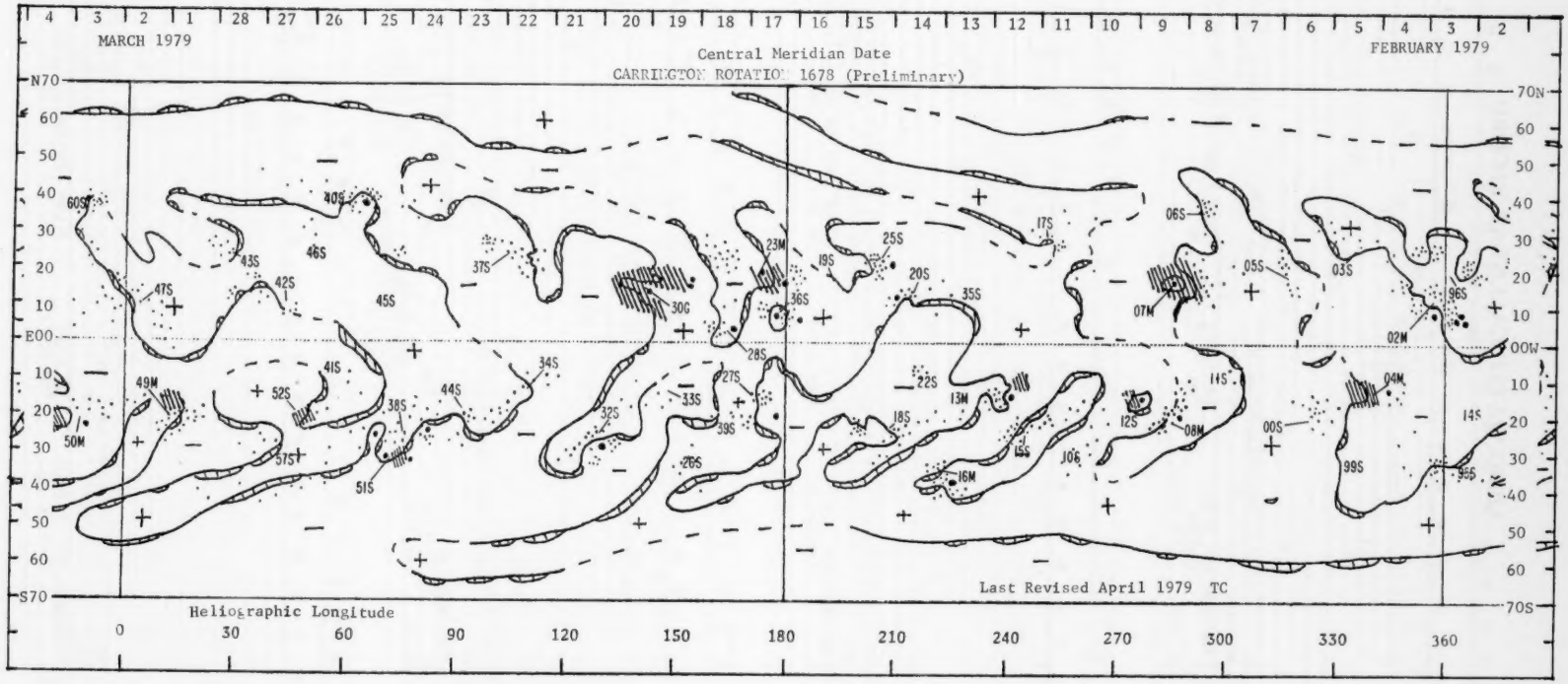
Hα SYNOPTIC CHART



ABBREVIATED CALENDAR RECORD

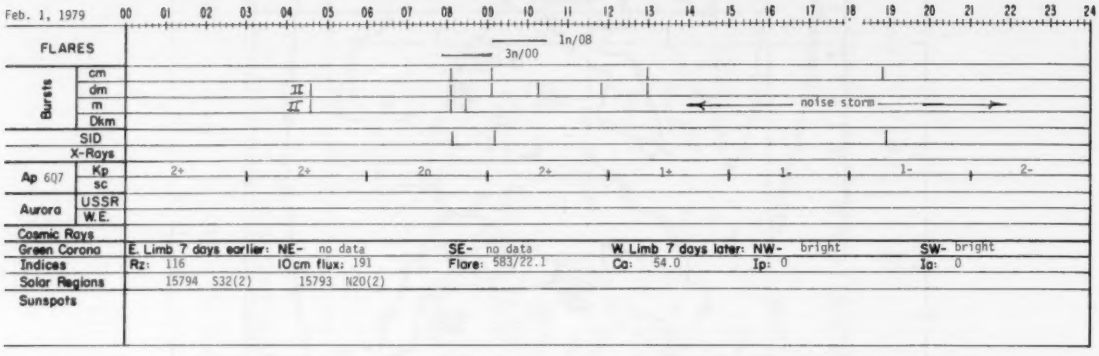
Hα SYNOPTIC CHART

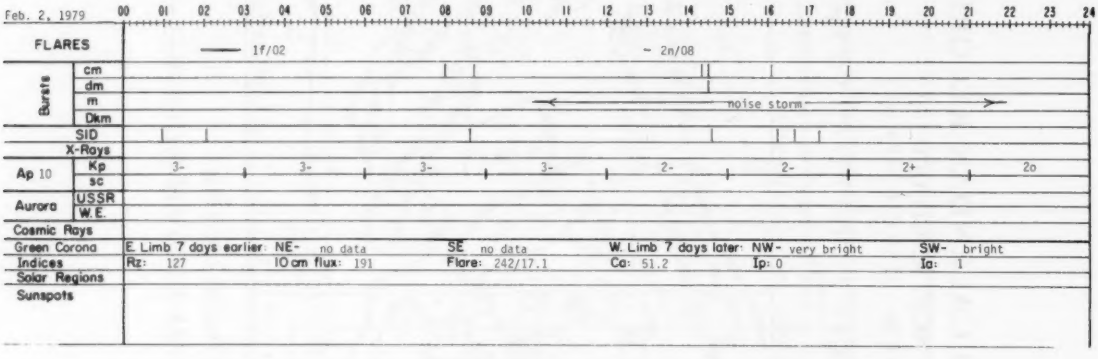
FEBRUARY - MARCH 1979

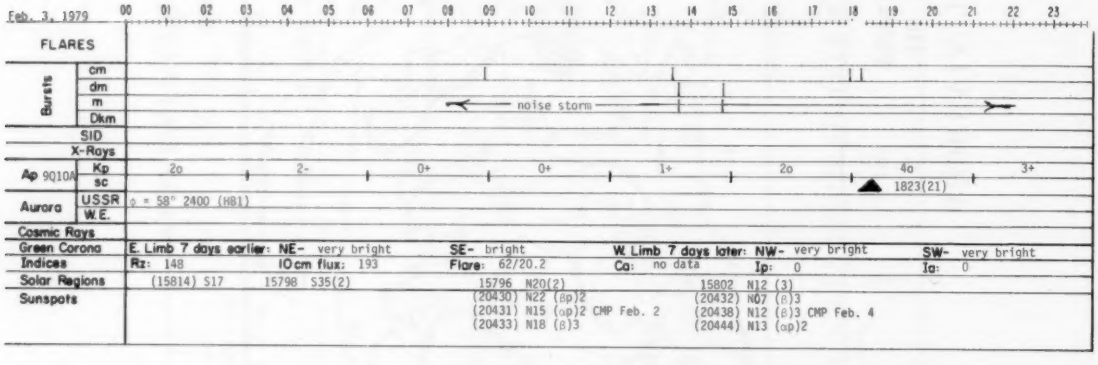


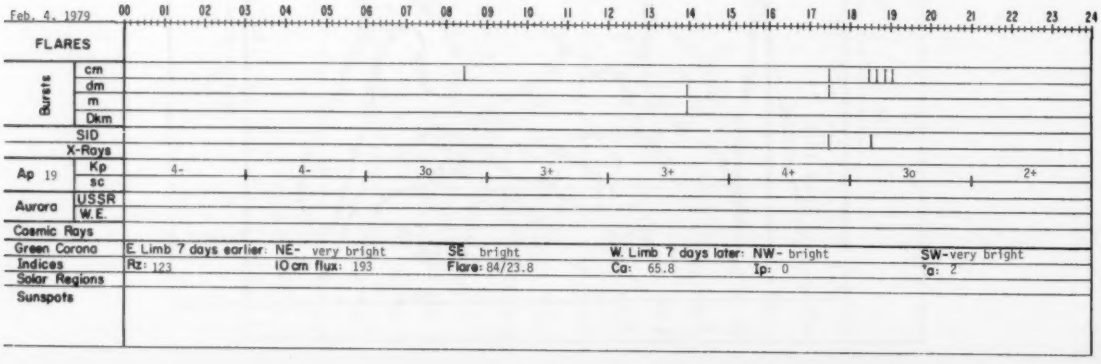
ABBREVIATED CALENDAR RECORD

FEBRUARY 1979









Feb. 5, 1979

		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES									2b/08				1f/04											1b/08		
Bursts	cm																									
	dm																									
	m													noise storm												
	Dkm																									
SID																										
X-Rays																										
Ap 9	Kp	4-				2+			3-			3o			2-			0+			0+			2o		
	sc																									
Aurora	USSR																									
	W.E.																									
Cosmic Rays																										

Green Corona — E. Limb 7 days earlier: NE- no data; SE- no data; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 134; 10cm flux: 203; Flare: 392/22.6; Ca: 70.9; Ip: 0; Ia: 3

Solar Regions — 15804 S14 (4); 15803 N26 (4); (15799) S34

Sunspots — (20434) S13 (β) 4

Feb. 6, 1979

		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES									1n/07															1n/07		
Bursts	cm																									
	dm																									
	m															noise storm										
	Dkm																									
SID																										
X-Rays																										
Ap 16	Kp	2+				4o			3o			3-			3o			2o			3-			4o		
	sc																									
Aurora	USSR																									
	W.E.																									
Cosmic Rays																										

Green Corona — E. Limb 7 days earlier: NE- moderately bright; SE moderately bright; W. Limb 7 days later: NW- moderately bright; SW-bright

Indices — Rz: 146; 10cm flux: 212; Flare: 122/24.0; Ca: 69.2; Ip: 0; Ia: 2

Solar Regions — 15800 S20(4); 15805 N17(2)

Sunspots — 20439 S22 β1

Feb. 7, 1979

		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES						1n/08					1n/13		1b/08													
Bursts	cm																									
	dm																									
	m															noise storm										
	Dkm																									
SID																										
X-Rays																										
Ap 6Q6	Kp	2-				1o			1-			2-			2-			2o			2o			2+		
	sc																									
Aurora	USSR																									
	W.E.																									
Cosmic Rays																										

Green Corona — E. Limb 7 days earlier: NE- no data; SE- no data; W. Limb 7 days later: NW- very bright; SW-very bright

Indices — Rz: 144; 10cm flux: 209; Flare: 114/22.5; Ca: 67.4; Ip: 0; Ia: 2

Solar Regions

Sunspots

Feb. 8, 1979

		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FLARES				1n/08	1f/--					2n/07											1b/02					
Bursts	cm																									
	dm																									
	m															noise storm										
	Dkm																									
SID																										
X-Rays																										
Ap 9Q9A	Kp	3-				2+			2-			3-			1+			2+			2+			2+		
	sc																									
Aurora	USSR																									
	W.E.																									
Cosmic Rays																										

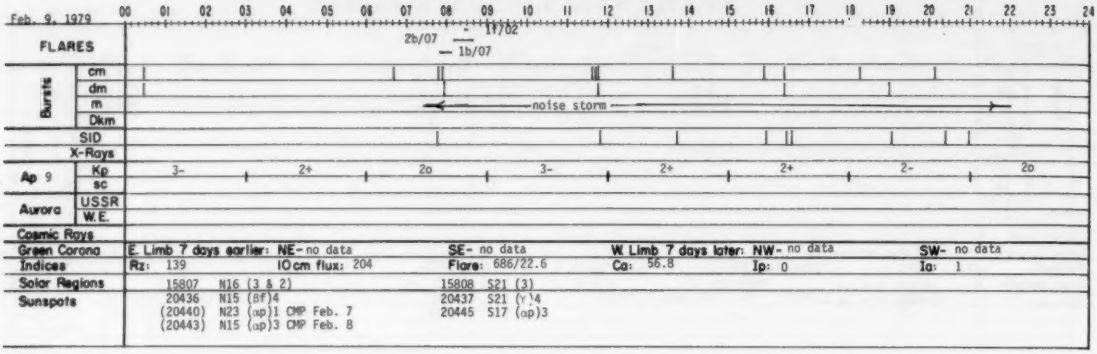
Forbush decrease that began Jan. 27 returned to normal.

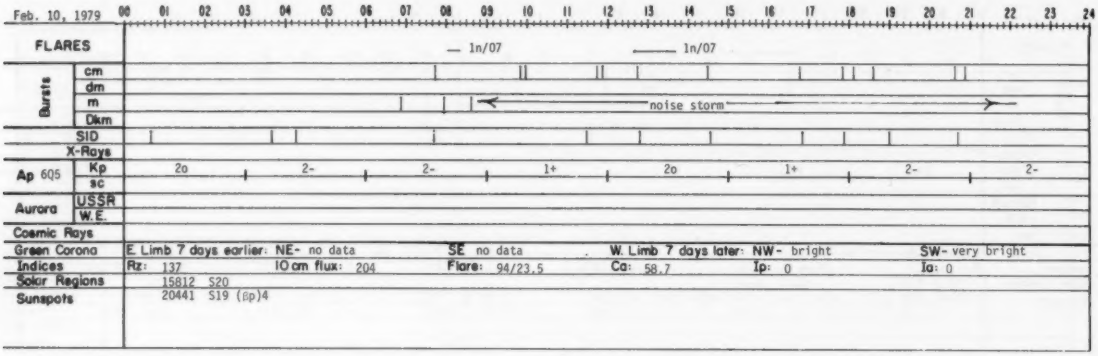
Green Corona — E. Limb 7 days earlier: NE- no data; SE no data; W. Limb 7 days later: NW- no data; SW- no data

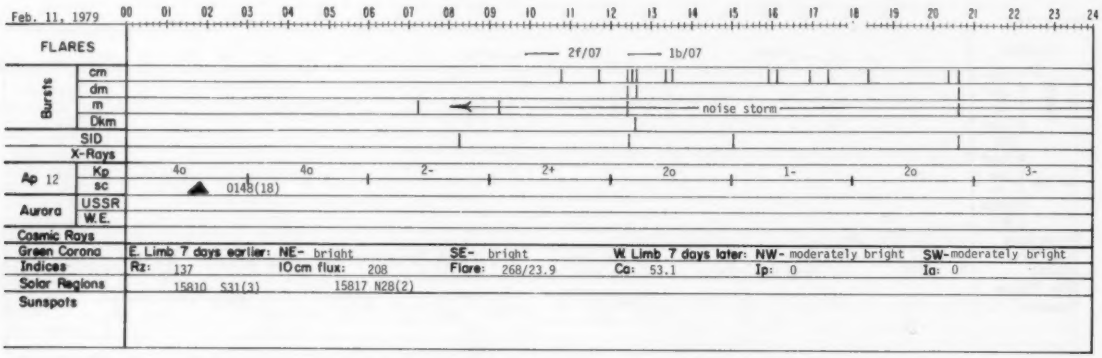
Indices — Rz: 142; 10cm flux: 213; Flare: 486/23.4; Ca: 67.9; Ip: 0; Ia: 2

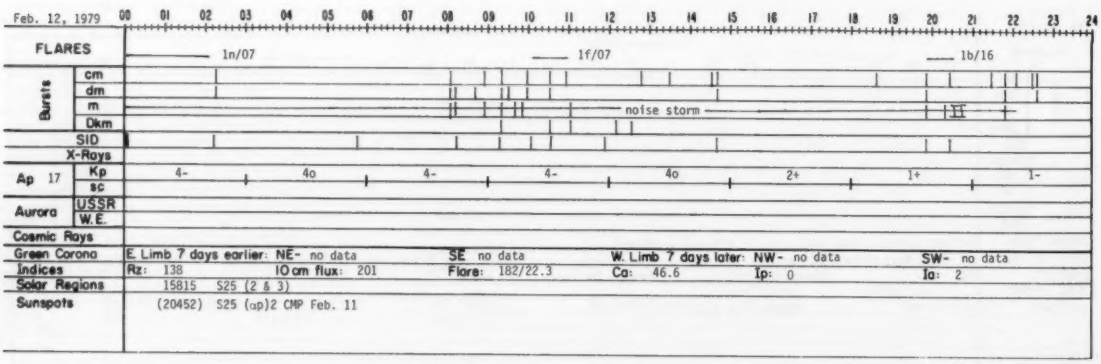
Solar Regions — 15811 S09(2); 15806 N36

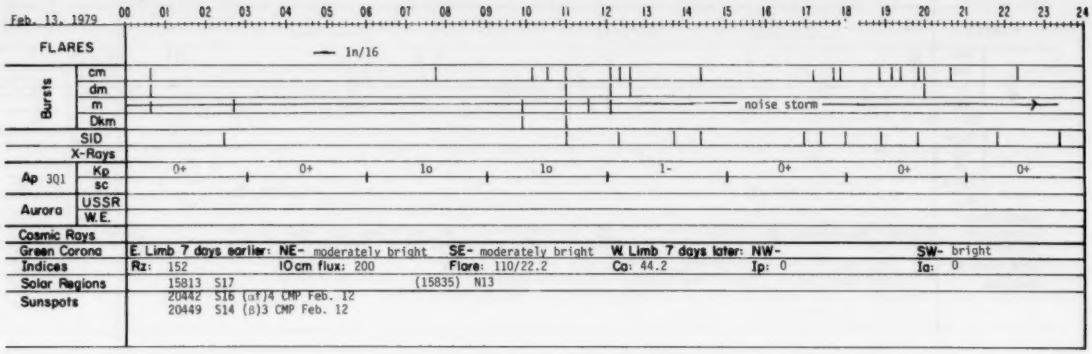
Sunspots — (20435) N34 (αp)3

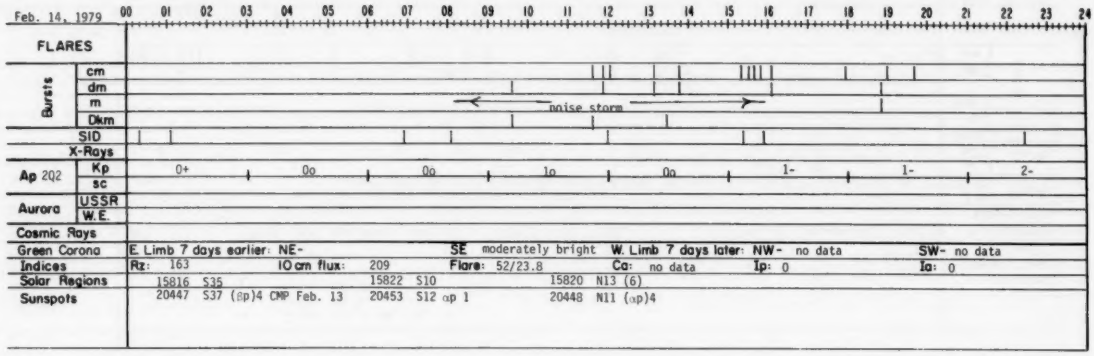

Feb. 9, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2b/07
1f/02
1b/07
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 9
Kp
3- 2+ 2o 3- 2+ 2+ 2- 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 139
10 cm flux: 204
Flare: 686/22.6
Ca: 56.8
Ip: 0
Ia: 1
Solar Regions
15807 N16 (3 & 2)
15808 S21 (3)
Sunspots
20436 N15 (Bf)4
20437 S21 (γ)4
(20440) N23 (ap)1 CMP Feb. 7
20445 S17 (ap)3
(20443) N15 (ap)3 CMP Feb. 8

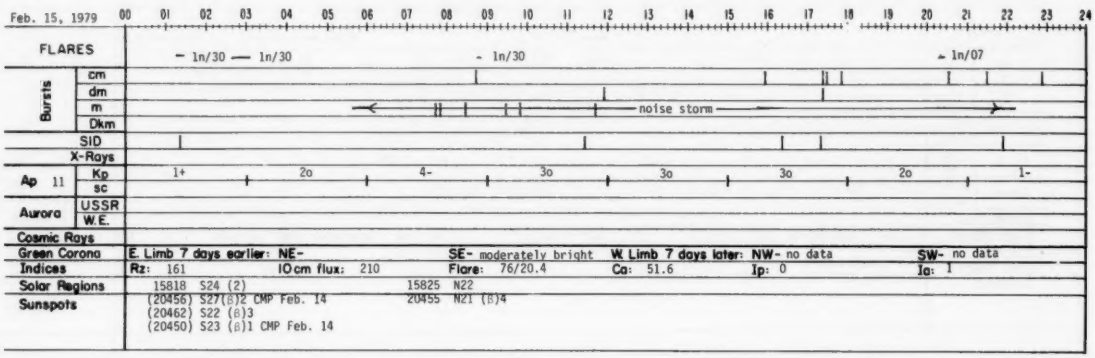

Feb. 10, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/07
1n/07
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 605
Kp
2o 2- 2- 1+ 2o 1+ 2- 2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW- bright
SW- very bright
Indices
Rz: 137
10 cm flux: 204
Flare: 94/23.5
Ca: 58.7
Ip: 0
Ia: 0
Solar Regions
15812 S20
Sunspots
20441 S19 (βp)4

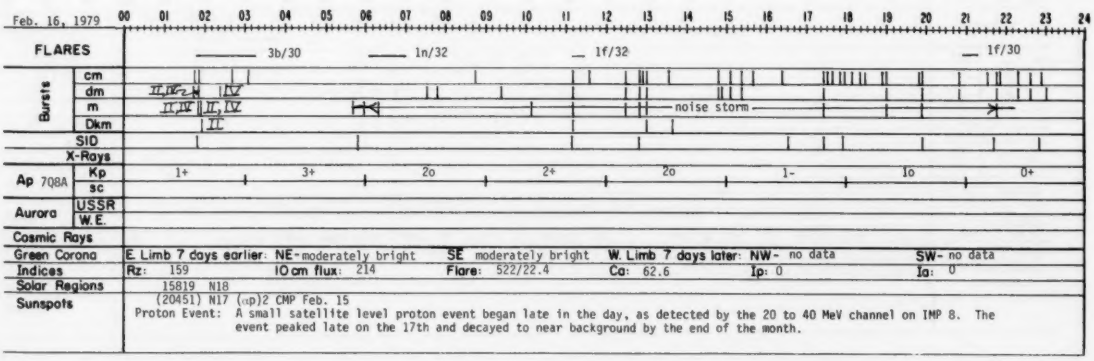

Feb. 11, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
2f/07
1b/07
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 12
Kp
4o 4o 2- 2+ 2o 1- 2o 3-
sc
0148(18)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE- bright
W. Limb 7 days later: NW- moderately bright
SW- moderately bright
Indices
Rz: 137
10 cm flux: 208
Flare: 268/23.9
Ca: 53.1
Ip: 0
Ia: 0
Solar Regions
15810 S31(3)
15817 N28(2)
Sunspots

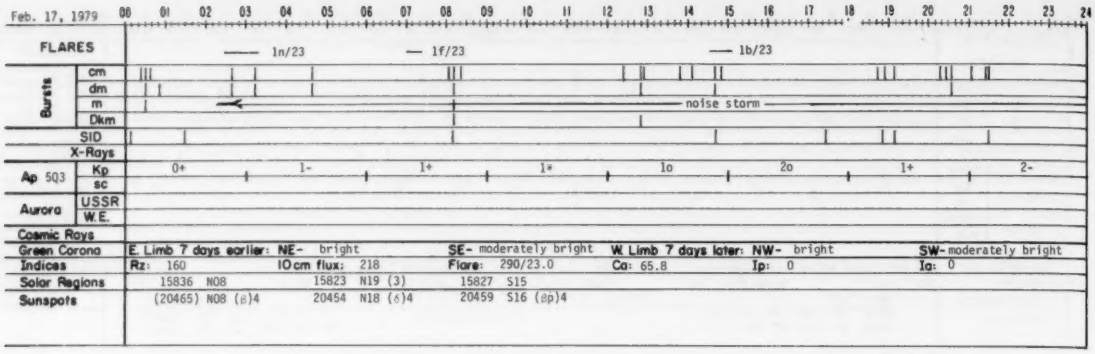

Feb. 12, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/07
1f/07
1b/16
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 17
Kp
4- 4o 4- 4- 4o 2+ 1+ 1-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 138
10 cm flux: 201
Flare: 182/22.3
Ca: 46.6
Ip: 0
Ia: 2
Solar Regions
15815 S25 (2 & 3)
Sunspots
(20452) S25 (ap)2 CMP Feb. 11

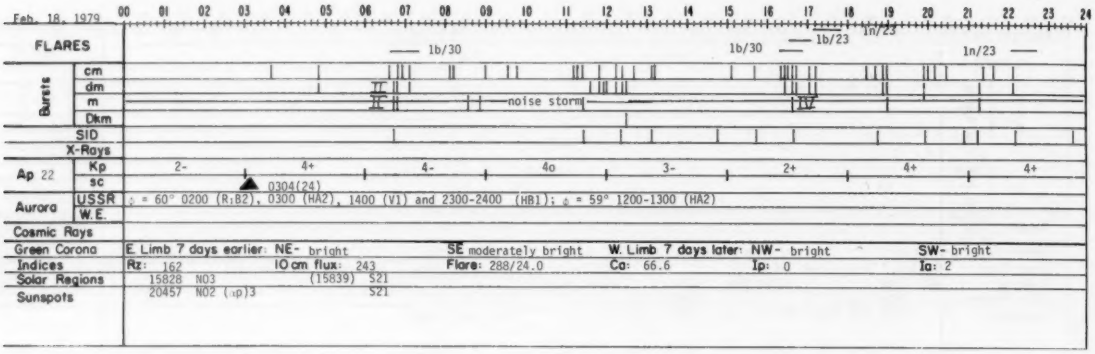

Feb. 13, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/16
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 3Q1
Kp
sc
0+ 0+ 1o 1o 1- 0+ 0+ 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- moderately bright W. Limb 7 days later: NW- SW- bright
Indices
Rz: 152 10cm flux: 200 Flare: 110/22.2 Ca: 44.2 Ip: 0 Ia: 0
Solar Regions
15813 S17 (15835) N13
Sunspots
20442 S16 (αf)4 CMP Feb. 12
20449 S14 (β)3 CMP Feb. 12

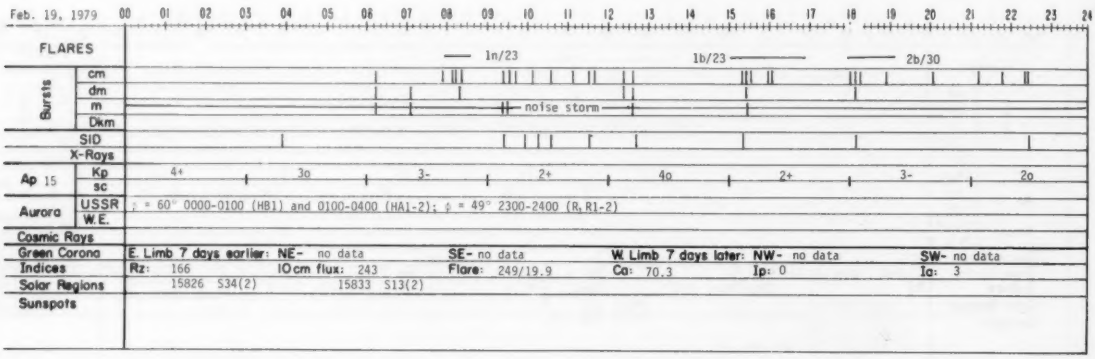

Feb. 14, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 2Q2
Kp
sc
0+ 0o 0o 1o 0o 1- 1- 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 163 10cm flux: 209 Flare: 52/23.8 Ca: no data Ip: 0 Ia: 0
Solar Regions
15816 S35 15822 S10 15820 N13 (6)
Sunspots
20447 S37 (βp)4 CMP Feb. 13 20453 S12 αp 1 20448 N11 (αp)4

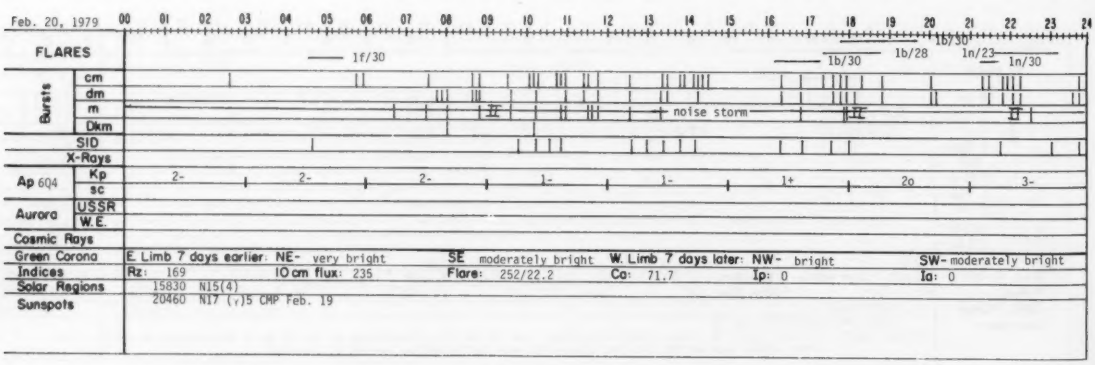

Feb. 15, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/30 1n/30 1n/30 1n/07
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 11
Kp
sc
1+ 2o 4- 3o 3o 3o 2o 1-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE- moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 161 10cm flux: 210 Flare: 76/20.4 Ca: 51.6 Ip: 0 Ia: 1
Solar Regions
15818 S24 (2) 15825 N22
Sunspots
(20456) S27(β)2 CMP Feb. 14 20455 N21 (β)4
(20462) S22 (β)3
(20450) S23 (β)1 CMP Feb. 14

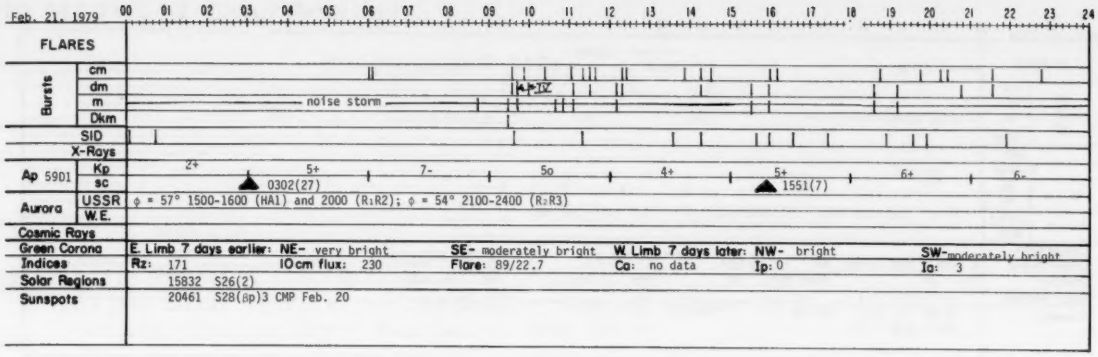

Feb. 16, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
3b/30 1n/32 1f/32 1f/30
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 7Q8A
Kp
sc
1+ 3+ 2o 2+ 2o 1- 1o 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-moderately bright SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 159 10cm flux: 214 Flare: 522/22.4 Ca: 62.6 Ip: 0 Ia: 0
Solar Regions
15819 N18
Sunspots
(20451) N17 (αp)2 CMP Feb. 15
Proton Event: A small satellite level proton event began late in the day, as detected by the 20 to 40 MeV channel on IMP 8. The event peaked late on the 17th and decayed to near background by the end of the month.

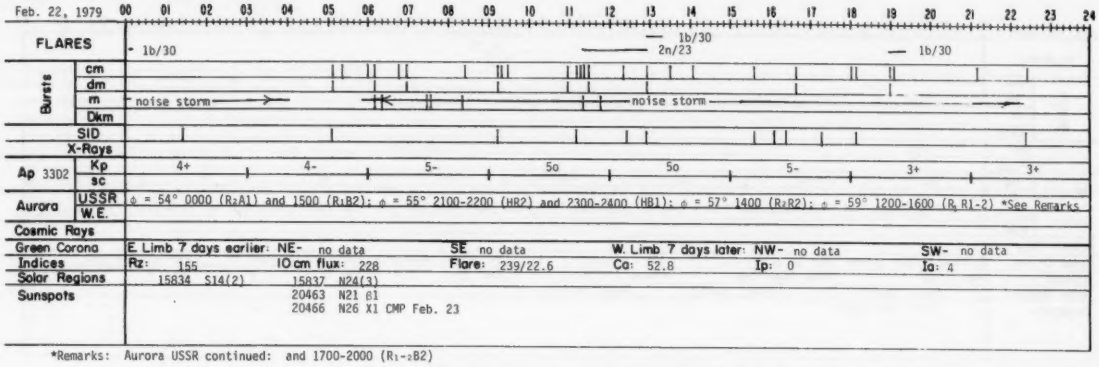

Feb. 17, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/23
1f/23
1b/23
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 503
Kp
0+ 1- 1+ 1+ 1o 2o 1+ 2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE- moderately bright
W. Limb 7 days later: NW- bright
SW- moderately bright
Indices
Rz: 160
10 cm flux: 218
Flare: 290/23.0
Ca: 65.8
Ip: 0
Ia: 0
Solar Regions
15836 N08
15823 N19 (3)
15827 S15
Sunspots
(20465) N08 (β)4
20454 N18 (δ)4
20459 S16 (βp)4


Feb. 18, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/30
1b/30
1b/23
1n/23
1n/23
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 22
Kp
2- 4+ 4- 4o 3- 2+ 4+ 4+
sc
0304(24)
Aurora
USSR
♀ = 60° 0200 (R;B2), 0300 (HA2), 1400 (V1) and 2300-2400 (HB1); ♃ = 59° 1200-1300 (HA2)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright
SE moderately bright
W. Limb 7 days later: NW- bright
SW- bright
Indices
Rz: 162
10 cm flux: 243
Flare: 288/24.0
Ca: 66.6
Ip: 0
Ia: 2
Solar Regions
15828 N03
(15839) S21
Sunspots
20457 N02 (αp)3
S21

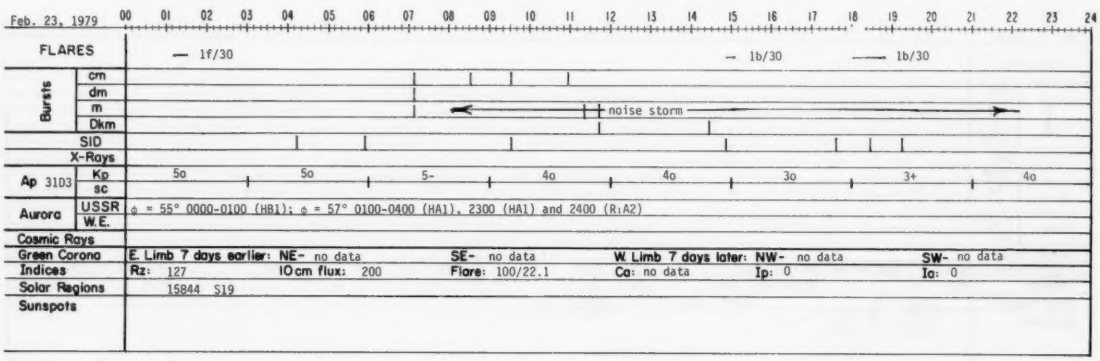

Feb. 19, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/23
1b/23
2b/30
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 15
Kp
4+ 3o 3- 2+ 4o 2+ 3- 2o
sc
Aurora
USSR
♀ = 60° 0000-0100 (HB1) and 0100-0400 (HA1-2); ♃ = 49° 2300-2400 (R,R1-2)
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 166
10 cm flux: 243
Flare: 249/19.9
Ca: 70.3
Ip: 0
Ia: 3
Solar Regions
15826 S34(2)
15833 S13(2)
Sunspots

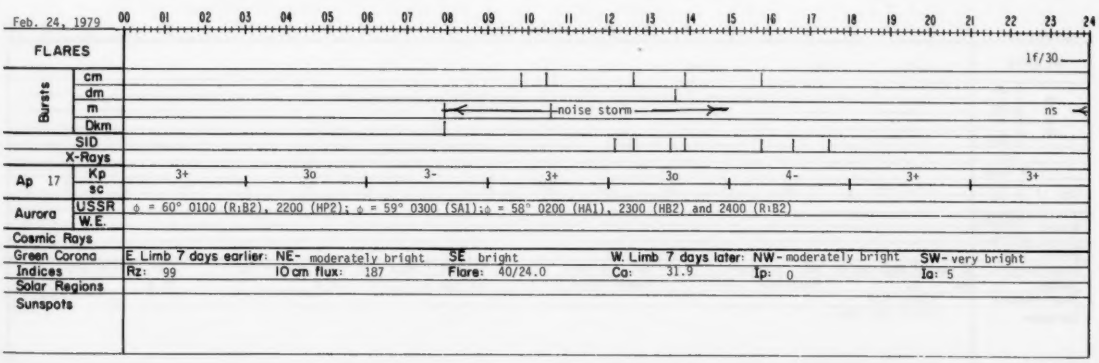

Feb. 20, 1979
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/30
1b/30
1b/28
1n/23
1n/30
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 604
Kp
2- 2- 2- 1- 1- 1+ 2o 3-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright
SE moderately bright
W. Limb 7 days later: NW- bright
SW- moderately bright
Indices
Rz: 169
10 cm flux: 235
Flare: 252/22.2
Ca: 71.7
Ip: 0
Ia: 0
Solar Regions
15830 N15(4)
Sunspots
20460 N17 (γ)5 CMP Feb. 19

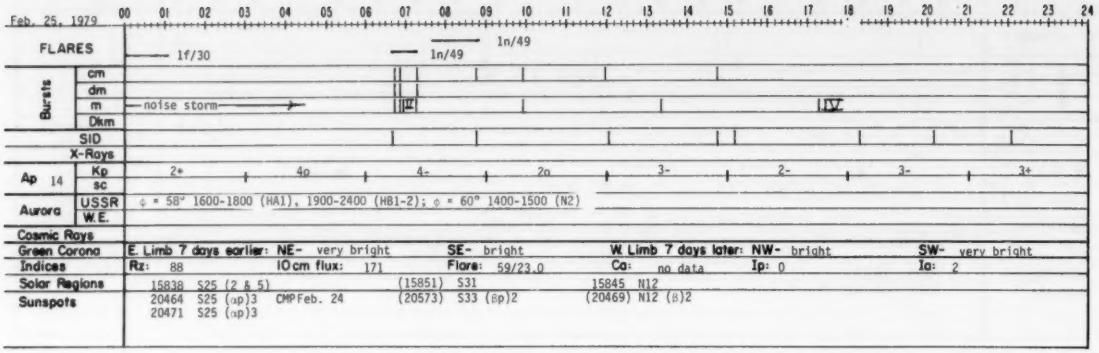


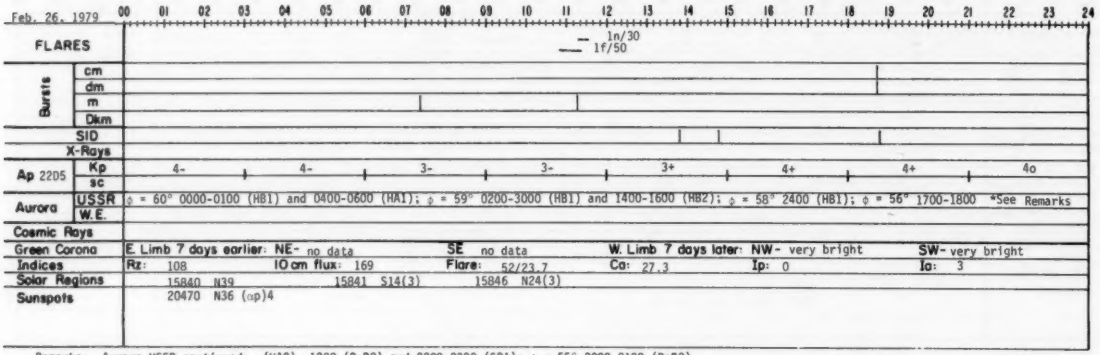


*Remarks: Aurora USSR continued: and 1700-2000 (R1-2B2)

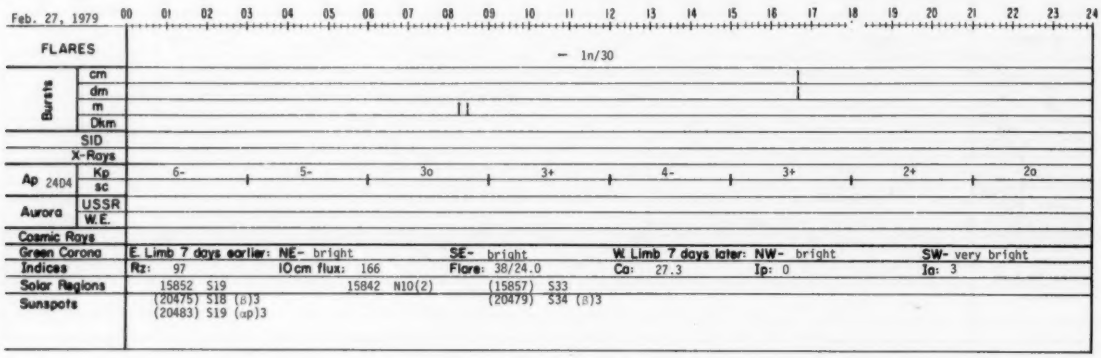


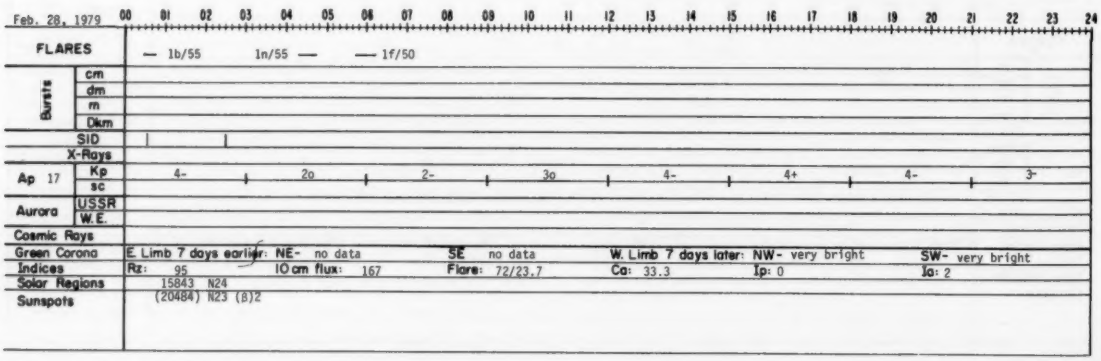






Remarks: Aurora USSR continued: (HA2), 1900 (R1B2) and 2200-2300 (SP1); φ = 55° 2000-2100 (R2B2)





SGD 422 Part II (Comprehensive)

MISCELLANEOUS DATA

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DAILY SOLAR INDICES

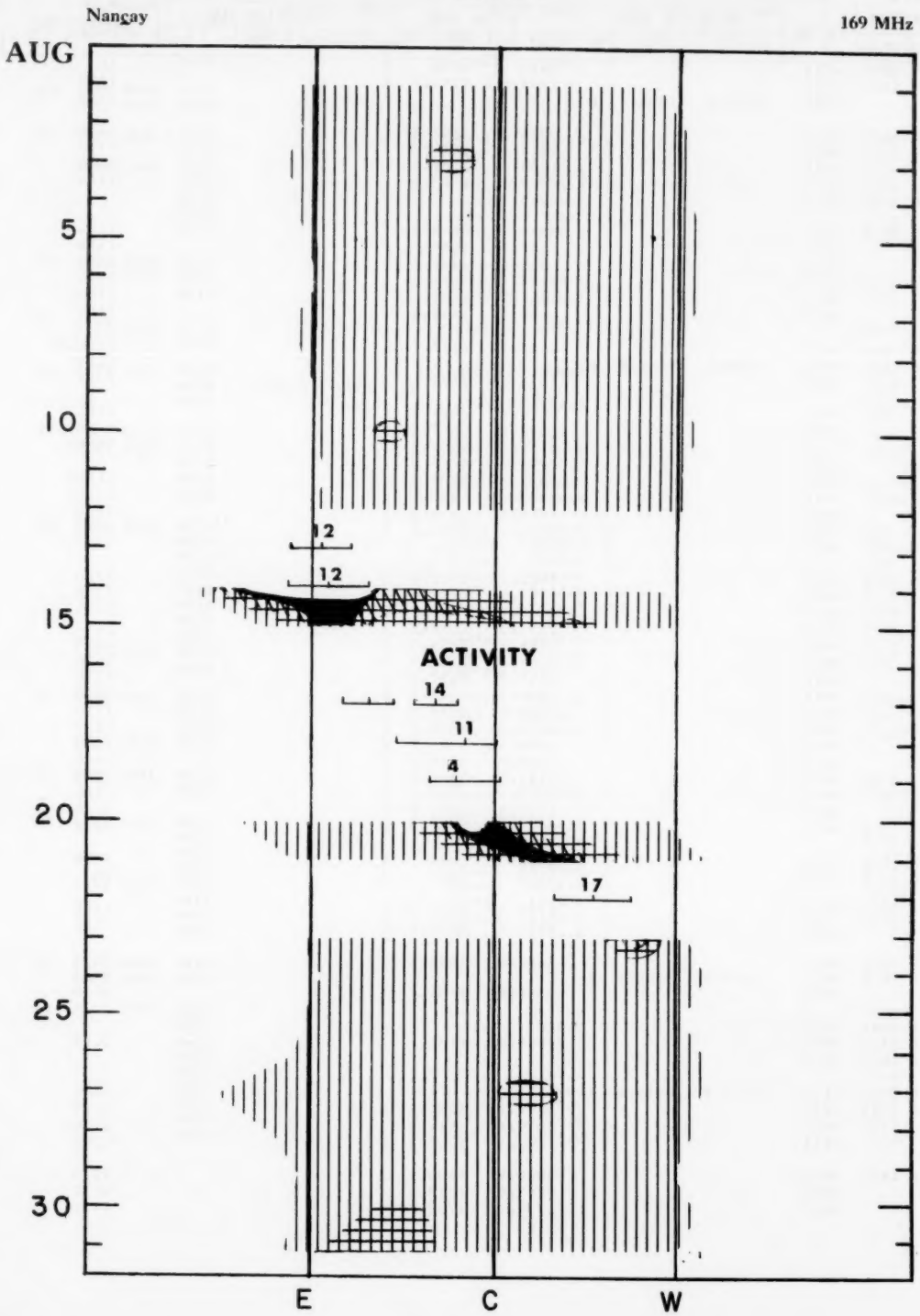
AUGUST 1979

AUG 1979	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	213	1	115	95	144.8	558	346	166	149.1	144	105	82		
2	214	2	96	84	139.7*	558	341	164	143.9*	140	107	83		
3	215	3	121	90	140.9				145.1					
4	216	4	110	79	137.7	550	342	162	141.7	136	105	80		
5	217	5	93	79	137.6	570	337	162	141.6	136	100	73		
6	218	6	104	100	145.3	563	341	167	149.5	141	107	76		
7	219	7	110	99	147.0	576	363	173	151.1	143	108	75		
8	220	8	132	104	148.5	558	383	177	152.7	153	108	75		
9	221	9	115	97	153.0	554	375	187	157.3	156	109	93		18
10	222	10	92	68	148.1*	518	357	179	152.1*	149	114	78		20
11	223	11	84	79	150.3	504	349	168	154.4	151	116	79		20
12	224	12	87	73	141.0	507	304	163	144.8	128	111	77		18
13	225	13	91	64	151.9	571	370	182	155.8	153	117	73		31
14	226	14	113	91	154.2*	531	379	204	158.2*	170	129	69		19
15	227	15	135	109	163.4	585	374	192	167.6	164	125	83		17
16	228	16	122	103	160.8	566	373	184	164.8	161	122	82		27
17	229	17	138	104	161.8	578	380	189	165.8	158	117	83		31
18	230	18	157	114	175.6	593	399	205	180.0	172	131	86		25
19	231	19	176	164	182.0	571	367	205	186.4	182	136	84		31
20	232	20	187	172	199.4*				204.2*					
21	233	21	218	203	202.9*	598	420	244	207.6*	205	144	92		29
22	234	22	216	204	218.2	605	438	250	223.2	216	147	83		22
23	235	23	206	190	213.9	595	429	257	218.6	217	151	99		24
24	236	24	203	187	220.4	571	414	250	225.2	215	151	96		30
25	237	25	201	195	224.4*				229.3*					
26	238	26	182	168	218.7	658	443	282	223.3	246	170	118		36
27	239	27	169	169	208.4	584	414	246	212.8	212	144	92		23
28	240	1	174	160	210.0	593	406	231	214.2	206	141	93		26
29	241	2	158	161	193.7	562	384	215	197.6	191	140	91		17
30	242	3	150	134	184.3	573	367	201	187.8	185	134	84		21
31	243	4	168	138	176.5	582	379	192	179.9	176	130	89		22
MEAN			143.5	125.1	172.7	571	378	200	177.0	172	121	84		24

* Adjusted for burst.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

AUGUST 1979



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0409	1335	WEIS				0416	1609	2				IN
	1342	1813	WEIS				1733.6	1733.7	2				IIIU
			WEIS	1806.3	1806.5	1							IIIG
02	0410	1823	WEIS				0900.3	0903.3	2				IIIG
			WEIS				0915.4	0915.7	1				IIIG
			WEIS				1338.3	1338.6	1				IIIG
			WEIS				1408.4	1409.6	1				IIIG
	1826	1842	WEIS										
03	0410	1842	WEIS				0645.4	0645.6	2				IIIG
			WEIS				1137.9	1138.4	2				IIIG
			WEIS				1325.7	1326.2	2				IIIG
			WEIS				1543.0	1555.0	1				IIIG
			WEIS				1617.9	1622.1	2				IIIGG
			WEIS				1648.4	1648.5	1				IIIG
04	0411	0846	WEIS				0421.0	1817	1				IS,CONT
	0851	1842	WEIS	1439.7	1441.9	1							IIIGG
			WEIS				1604	1724	2				IIIS
05	0411	1351	WEIS				0424.8	0425.3	1				IIIG
			WEIS				0442.6	0447.2	1				IIIGG
			WEIS				0651.1	0654.8	2				IIIGG
			WEIS				0702.7	0706.7	1				II
			WEIS				0925.3	0930.2	1				IIIGG
			WEIS				0939.3	0939.6	2				IIIGG
			WEIS				1016.2	1016.3	2				IIIG
			WEIS				1021.2	1021.3	1				IIIB
	1357	1842	WEIS										
06	0412	1842	WEIS				0521.5	0521.6	1				IIIB
			WEIS				0552.4	0552.5	1				IIIB
			WEIS				0647.4	0648.1	1				IIIG
			WEIS				0657.1	0658.3	1				IIIG
			WEIS				0704.7	0704.9	1				IIIB
			WEIS				0755.2	0756.3	2				IIIG
			WEIS				0810.3	0810.4	1				IIIB
			WEIS				0836.8	0837.0	1				IIIG
			WEIS				1009.6	1012.3	1				IIIG
			WEIS				1036.0	1036.2	1				IIIB
			WEIS				1046.4	1046.5	2				IIIB
			WEIS				1105.2	1105.4	2				IIIG
			WEIS				1111.5	1113.3	2				IIIG
			WEIS				1247.7	1247.9	1				IIIG
			WEIS				1731.0	1841.0	2				IN,DC
			WEIS				1832.6	1833.7	2				IIIG
07	0458	1841	WEIS				0430	1737	1				IIIN
	0413	0444	WEIS				0433	1807	2				IN
08	0631	1841	WEIS				0714.0	0714.6	1				IIIG
			WEIS				0907.2	0908.5	2				IIIG
09	0705	1114	WEIS				1008.0	1008.1	1				IIIB
	1127	1840	WEIS	1357.6	1358.5	2							IIIG
			WEIS				1541.0	1751.0	1				IIIN
10	0401	0449	WEIS										
	0607	1313	WEIS				0626.7	0632.2	1				IIIG
	1318	1843	WEIS										
11	0408	1816	WEIS	1015.9	1016.9	1							IIIG
	1821	1843	WEIS				1037.7	1038.5	1				IIIG
			WEIS				1515.8	1516.9	1				IIIG
			WEIS				1642.5	1642.8	2				IIIG
12	0408	1834	WEIS				0906.5	0906.7	1				IIIB
			WEIS				1217.8	1219.1	2				IIIG
			WEIS				1731.9	1732.2	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
12			WEIS				1736.1	1736.3	2				IIIB
13	0424	0919	WEIS										
	0925	1833	WEIS										
14	0427	1831	WEIS				0454.7	0454.9	1				IIIG
			WEIS				0702	1734	2				IIIN
	0425	1832	WEIS				0816.3	0816.6	1				IIIG
			WEIS				0928.1	0929.3	1				IIIG
			WEIS				1101.0	1101.3	1				IIIB
			WEIS				1129.1	1129.2	1				IIIB
			WEIS				1257.5	1258.0	1				IIIB
16	0429	0636	WEIS										
	0646	1829	WEIS				1324.6	1325.6	2				IIIG
			WEIS				1456.2	1456.3	2				IIIB
17	0429	1245	WEIS				0442.0	1658	2				IIIN
	1332	1830	WEIS										
18	0429	1828	WEIS				0954.2	0954.3	2				IIIG
			WEIS	1056.6	1056.9	1							IIIB
			WEIS				1515.0	1800.0	1				IIIN
19	0429	0450	WEIS				0444	1813	3				IIIN
	0519	1834	WEIS				1054.3	1056.6	3				IIIGG
			WEIS				1057.1	1107.5	2				II HARM
			WEIS				1557.2	1600.6	3				IIIGG
			WEIS				1702.9	1704.6	3				IIIGG
20	0424	1054	WEIS				0441.5	0441.8	2				IIIG
			WEIS				0523.6	0523.7	2				IIIG
			WEIS				0528.8	0528.9	3				IIIG
			WEIS				0531.5	0533.6	1				IIIG
			WEIS				0535.7	0540.5	3				IIIGG
			WEIS				0543.4	0543.7	1				IIIG
			WEIS				0649.8	0650.0	1				IIIB
			WEIS				0933.0	0938.5	3				IIIGG
	1112	1833	WEIS				1119.5	1120.6	3				IIIG
			WEIS				1254.4	1256.5	3				IIIG
21	0425	1704	WEIS				0430.6	0431.5	2				IIIGG
			WEIS				0513	1750	2				IIIN
			WEIS				1342.0	1344.8	3				IIIGG
	1710	1832	WEIS										
22	0427	1831	WEIS				0450	1725	1				IIIN
			WEIS				0542.4	0545.8	3				IIIGG
23	0428	0850	WEIS				0554.1	0554.2	1				IIIB
			WEIS				0651.0	0651.8	1				IIIG
			WEIS				0727.4	0727.9	3				IIIG
			WEIS				0744.0	0744.5	3				IIIG
	0856	1829	WEIS				0934.3	0942.7	3				IIIGG
			WEIS				1009.8	1010.1	2				IIIB
			WEIS				1039.9	1040.3	2				IIIG
			WEIS				1651.0	1656.0	1				II
24	0429	1432	WEIS				0533	1703	2				IIIN
	1438	1829	WEIS										
25	0429	1829	WEIS				0449.1	0449.2	1				IIIB
			WEIS				0630.2	0632.8	2				IIIG
			WEIS				0640.4	0640.7	1				IIIG
			WEIS				0703.7	0704.4	1				IIIG
			WEIS				0838.9	0839.0	1				IIIB
			WEIS				1125.0	1125.1	2				IIIB
			WEIS				1228.2	1228.4	2				IIIG
			WEIS				1435.3	1435.6	1				IIIG
			WEIS				1452.0	1453.4	1				IIIG,U

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1979

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
25			WEIS				1636.7	1636.8	1				IIIG
26	0430	0606	WEIS				0445.2	0445.4	1				IIIB
	0650	1217	WEIS				0716.4	0718.8	2				IIIG
			WEIS				0727.1	0727.3	1				IIIG
			WEIS				0916.2	0916.3	2				IIIG
			WEIS				0925.4	0928.8	2				IIIG,U
			WEIS				1041.7	1051.4	2				IIIGG
	1226	1827	WEIS				1258.7	1259.7	1				IIIG
			WEIS				1414.2	1415.6	3				IIIGG
			WEIS				1421.2	1421.3	1				IIIB
			WEIS				1441.7	1441.8	1				IIIG
			WEIS				1446.8	1446.9	1				IIIB
			WEIS				1453.2	1459.4	2				IIIG,RS
			WEIS				1519.7	1519.8	1				IIIB
			WEIS				1708.4	1708.8	1				IIIG
			WEIS				1816.8	1817.4	2				IIIG
27	0431	1213	WEIS				0517.0	1804.0	2				IIIN
	1250	1826	WEIS				0527.8	0528.0	2				IIIG,U
28	0423	0446	WEIS										
	0700	1825	WEIS				1015.1	1015.7	1				IIIG
			WEIS				1142.0	1143.0	1				IIIG
			WEIS				1221.4	1221.5	1				IIIB
			WEIS				1247.5	1247.7	1				IIIB
			WEIS				1724.0	1725.1	2				IIIG
29	0433	0700	WEIS				0522.7	0524.7	1				IIIG
			WEIS				0611.5	0612.6	1				IIIG
	0729	1824	WEIS				0819.8	0820.0	2				IIIB
			WEIS				1035.6	1040.4	2				IIIGG,U
			WEIS				1216.7	1221.9	2				IIIGG
			WEIS				1424.8	1427.3	3				IIIG
			WEIS				1433.5	1434.5	3				IIIG
30	0508	1452	WEIS				0643.6	0643.7	1				IIIB
			WEIS				1010.4	1011.8	1				IIIG
			WEIS				1019.5	1021.1	2				IIIG
			WEIS				1030.3	1030.7	2				IIIG
	1458	1823	WEIS										
31	0435	1821	WEIS				0647.6	0648.5	1				IIIG
			WEIS				1248.9	1249.2	2				IIIB

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

SOLAR WIND

Interplanetary Scintillations

AUGUST 1979

DAY	3C48 VEL	ERR	3C144 VEL	ERR	3C147 VEL	ERR	3C161 VEL	ERR	3C237 VEL	ERR	3C273 VEL	ERR	3C298 VEL	ERR	3C459 VEL	ERR
1							397	6			533	20				
2													378	7		
3											388	7				
4	274	6	414	14			373	18			320	5				
5			346	11	378	31	307	16			270	36	357	25		
6	378	4	393	9	295	38	380	8			309	11	425	30		
7	257	18	368	25	402	67	229	17			332	25	431	14		
8	413	7	416	13			364	46								
10											343	18				
11			418	6	330	5	390	24					337	4		
12											387	35	291	6		
13	468	99	461	10			373	36					345	7		
14	408	8	339	8							333	11				
15			397	37	286	15	447	31			459	19	341	*		
16																
17	298	22	462	10	394	41	512	67								
18	362	27	371	14	366	11	586	17								
19	334	6			413	21	444	14			502	8				
20	339	4	510	13	407	61					387	12	477	9		
21	391	4	455	36	385	33					471	16	461	18		
22	388	19	384	17							432	17	641	34		
23	303	16	540	44			478	39			392	8				
24			522	21			522	31			393	27	410	15		
25	445	5	414	8	371	20	402	19			418	11	488	28		
26	435	42	480	14							325	81	397	23		
27	353	11					449	53			520	75	385	17		
28							599	27			346	12	462	49		
29			493	12	325	21	469	56					491	9		
30			310	36			395	9					398	5		
31			414	9			412	7								

AUGUST 5	UT	LAT	DIST	DLON
3C48	13.	12.	1.08	15.
3C144	17.	6.	0.76	41.
3C147	16.	27.	0.79	33.
3C161	18.	-22.	0.71	36.
3C237	22.	-12.	0.31	-70.
3C273	24.	6.	0.80	-37.
3C298	1.	10.	0.98	-17.
3C459	10.	8.	1.25	8.

15	UT	LAT	DIST	DLON
3C48	12.	12.	1.12	14.
3C144	16.	6.	0.86	31.
3C147	15.	22.	0.87	27.
3C161	17.	-15.	0.79	31.
3C237	21.	-25.	0.16	-77.
3C273	23.	7.	0.69	-47.
3C298	1.	12.	0.93	-21.
3C459	9.	8.	1.27	6.

25	UT	LAT	DIST	DLON
3C48	12.	12.	1.16	12.
3C144	15.	6.	0.93	22.
3C147	15.	17.	0.93	19.
3C161	17.	-9.	0.87	25.
3C237	20.	-65.	0.07	64.
3C273	22.	9.	0.56	-57.
3C298	0.	16.	0.86	-30.
3C459	9.	9.	1.29	4.

*indicates data for which no error estimate is available since only two antennas were operating.

3C 273 Observed at 0 hr. UT before August 2nd and at 23 hr. UT after August 2nd.

3C 298 Observed at 0 hr. UT before August 31 and at 23 hr. UT after August 31.

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JULY 1979

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS

The meaning of the station symbols is given in the IAGA-Bulletin nr. 32h, page 106-116.
Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

06	1930	A:	SOD ESK WNG WIT DOU VIC FUR EBR COI TOL FRD QUE PMG HUA MPO DUM
		B:	NGK MMB HAZ CZT KGL
		C:	KNY
12	1240	B:	WNG VIC FUR QUE HUA
		C:	NGK HAZ KNY KGL DUM (b: A: MPO - sfe: SOD TOL)
26	1833	A:	ESK WNG DOU FUR EBR COI FRD QUE PMG HUA MPO
		B:	WIT NGK VIC MMB TOL KAK HAZ KNY KGL DUM
		C:	CZT

Solar flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

04	0607 - 0617	HAZ	
04	1130 - 1140	WNG	
13	0820 - 0836	SOD	NGK
22	1306 - 1316	HUA	
25	1604 - 1627	WNG	

Very unusual events

none

REGIONAL FLARE INDEX

INCLUDES ALL FLARES

JANUARY 1979

HC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15739	S33	79/01/01.6	78/12/27	79/01/04	90.96	10.11	22
15742	S20	79/01/02.4	79/01/04	79/01/08	22.03	4.41	8
15755	N26	79/01/03.1	79/01/06	79/01/09	5.29	1.32	5
15743	N29	79/01/03.7	79/01/03	79/01/03	3.57	3.57	1
15741	S13	79/01/03.8	78/12/29	79/01/10	151.03	11.62	42
15744	N19	79/01/04.0	79/01/04	79/01/09	83.64	13.94	11
15740	S35	79/01/04.4	78/12/27	79/01/10	69.55	4.64	24
15746	S21	79/01/04.9	78/12/30	79/01/05	133.12	19.02	7
15745	N15	79/01/05.2	78/12/30	79/01/07	36.74	4.08	16
15766	N23	79/01/07.4	79/01/11	79/01/11	.86	.86	1
15749	N11	79/01/08.3	79/01/05	79/01/13	170.72	16.97	43
15748	S17	79/01/08.9	79/01/04	79/01/16	269.89	20.76	81
15750	N24	79/01/08.9	79/01/02	79/01/12	56.33	5.12	18
15764	S26	79/01/10.6	79/01/12	79/01/12	5.28	5.28	1
15754	N19	79/01/12.3	79/01/05	79/01/19	803.83	53.59	141
15773	N12	79/01/13.5	79/01/16	79/01/18	3.72	1.24	3
15757	S25	79/01/13.7	79/01/11	79/01/19	66.95	7.44	16
15769	N15	79/01/14.2	79/01/13	79/01/14	22.21	11.10	5
15759	N23	79/01/14.6	79/01/08	79/01/14	5.07	.72	3
15763	S26	79/01/15.3	79/01/10	79/01/10	.84	.84	1
15761	S15	79/01/15.3	79/01/16	79/01/16	35.68	35.68	1
15762	S24	79/01/16.2	79/01/09	79/01/22	210.50	15.04	64
15768	N11	79/01/18.2	79/01/13	79/01/21	13.98	1.55	5
15771	N22	79/01/18.6	79/01/19	79/01/19	3.38	3.38	1
15767	S24	79/01/18.8	79/01/18	79/01/24	43.74	6.25	13
15772	N19	79/01/21.3	79/01/16	79/01/26	307.84	27.99	46
15783	S33	79/01/21.3	79/01/22	79/01/22	3.41	3.41	1
15774	S15	79/01/21.9	79/01/15	79/01/26	58.92	4.91	20
15775	S18	79/01/22.8	79/01/19	79/01/22	5.80	1.45	2
15784	S23	79/01/23.3	79/01/25	79/01/27	9.03	3.01	3
15778	S12	79/01/23.7	79/01/19	79/01/30	67.29	5.61	15
15779	S25	79/01/23.9	79/01/21	79/01/29	50.14	5.57	19
15777	N14	79/01/24.5	79/01/18	79/01/31	241.17	17.23	72
15787	N20	79/01/26.1	79/01/20	79/02/01	109.26	8.40	41
15785	S14	79/01/26.7	79/01/19	79/01/29	379.51	34.50	69
15786	S26	79/01/27.7	79/01/22	79/02/02	271.76	22.65	38
15788	S23	79/01/29.0	79/01/22	79/02/03	11.87	.91	7
15792	S15	79/01/31.1	79/01/29	79/01/29	35.68	35.68	1
15794	S32	79/01/31.3	79/01/29	79/01/29	3.38	3.38	1

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